EPA Region 5 Records Ctr.

ATTACHMENT ATTACHMENT 10

(CENTINUED)



LETTER OF VIOLATION DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 337-8157 FAX (616) 337-8659

October 10, 1996

Certified Mail #Z 187 666 908

Mr. Mark Anderson Aero-Motive Company 5688 East ML Avenue Kalamazoo, Michigan 49003

Dear Mr. Anderson,

We have received the most recent self-monitoring results from your facility. Please be aware that the discharges from the following location(s) have levels which are above the allowable discharge limitations:

AER

4/19/1996

PCB

0.30 ug/l

Three other grab samples taken at the same location during the same self-monitoring sampling sequence show no detectable levels of PCB. Since three out of the four samples taken during the self-monitoring event were compliant, no further sampling is necessary to address the immediate non-compliance. However, since PCB is a prohibited discharge, detection in future sampling may initiate a requirement on our part that Aero-Motive take action to eliminate the presence of PCB in its discharge.

If you have any questions, please contact me at (616) 337 - 8705.

Sincerely,

Robert O'Day

Industrial Inspection Supervisor

Robert COTay

cc: Tim Meulenberg, Industrial Services Supervisor

file

BASELINE MONITORING REPORT (BMR)

Control Authority: City of Kalamazoo - Department of Public Utilities

(In accordance with 40 CFR Part 403.12(b))
I. IDENTIFYING INFORMATION:
NAME OF FACILITY: Aero-Motive Co.
FACILITY ADDRESS: 5688 M.L. Ave. East P.O. BOX 2678
CITY: Kalamazoo state MI ZIP 49003 NAME(S) OF OWNER(S)
NAME(S) OF OWNER(S) OR OPERATOR(S): Same ADDRESS: (IF DIFFERENT FROM ABOVE)
CITY: STATE ZJF
Vist any and all environmental permits held by on for the facility indicated above. Please also indicate what type of permit(s) are held (what they are for), who issued the permit(s) and when the permit(s) was issued plus the expiration date(s), if applicable (Use additional pages if necessary)
TYPE OF PERMIT PERMIT NUMBER ISSUED BY DATE ISSUED EXPIRES
r Use Permit 421-93 MONR 4/94 its permit is for wet painting.

III. DESCRIPTION OF OPERATIONS:

A. Briefly describe below the nature of this facility's operations. Please use additional pages if necessary and attach any appropriate drawings, sketches or diagrams if needed to provide adequate details regarding these operations.

Aero-Motive's core business is the production of Reels and Tool Balancers for Industry. The facility's main processes include machining, stamping, forming, welding, fabrication, cleaning, Iron Phosphatising, powder coating, wet painting, and assembly. See attached Exhibits I + I for layouts of the plant and the attached brochure highlighting the types of products we manufacture.

B. In the table below, detail the average rate of production along with the appropriate SIC (Standard Industrial Classification) Code(s) for operation(s) carried out by this facility. Please attach a schematic process diagram indicating all discharge points to the sanitary sewer. Use additional pages if necessary.

OPERATION AVERAGE PRODUCTION RATE SIC CODE

Iron Phosphatising System runs 8 hrs/day 3500

5 days/week

See Exhibits I + I for a layout showing the points connected to the City Sewer System. See Exhibit II for a schematro process diagram indicating the separate discharges to the sewer from this operation,

IV. FLOW MEASUREMENT:

Please indicate below the measured average daily and maximum daily flows of all regulated processes and all other process flows necessary for the use of the Combined Wastesteam Formula (CWF - see 40 CFR Part 403.6(e)).

PROCESS (PLEASE INDICATE AVERAGE DAILY MAXIMUM DAILY IF REGULATED OR NONREGULATED) FLOW (INDICATE UNITS) FLOW

N/A-The regulated process is iron phosphatising. Sampling will exclude any diluting waste streams, Process influent is measured and assumed to be equal to the effluent. Rinsewater is discharged continuously while washer is running at approximately 8,5 6PM or ~ HIDO Gallens/day. Rackwashing is estimated to average 25 gallens per day. Booth cleaning would only average out to be less than I gallen per day. The maximum daily flow from this system would be approximately 6,650 gallens it gil five stages were discharged at ence. The batch stages (1+3) will only be discharged occasionally, approximately once every 4 months. The rinse tanks would be fully discharged even loss often so this maximum potential discharge would not happen very often.

V. MEASUREMENT OF POLLUTANTS:

Identify all applicable Pretreatment Standards for all regulated processes detailed above. Please indicate below any results from sampling and analysis identifying the nature and concentration (or mass, where applicable) of regulated pollutants in the discharge from each regulated process. Both daily maximum and average concentrations (or mass) shall be reported and any samples collected for such analyses shall be representative of normal daily operations. Please also indicate the type of samples collect (i.e. composite, grab, etc...) and the frequency of the sample collection. Attach applicable laboratory reports and use additional pages if necessary. See Attached KAR Labs report

	PRETR	ICABLE EATMENT DARDS		MAX. TRATION MASS)MJ/L	AVERAC CONCENTRA (OR MAS	MOIT	TYPE OF SAMPLE	SAMPLING FREQUENCY
10	CFR	POLLUTAN	T	STA6E	Z STAGE 3	PIT	HAND	ONE
43	3.15	Cadminin.	T,69	4.005		.013	GRA(
		Chronium.	T 2.77		<,01	.14		6RAB
		copper,	T 3.38	,04	.03	1,44		SAMPLE
ļ		Lead.	T	<,05	<,05	,21		-
		NICKEL,	T 3.98	<,02	<.02	, 11		
		Zinc,	T 2.61	,04	,02	.84		
}		Cyanide,	T 1,20	7.02	<.02	.03		
	Petrolen	m Hydrocarbo	ns -	< 1	< /	32		
		ρH		8.6	8,8	7,8		
		Silver,	T ,43	3 <,005	<.005	<,005		
		Mercur	· v —	<,0005	<.0∞5	4.0005	W	V
W			7					

VI. CERTIFICATION:

This aspect of the submittal involves two (2) portions:

- 1) Qualified Professional Certification; and,
- 2) Authorized Representative Certification.

Based upon the certification provided (i.e. compliance or noncompliance), submission of a proposed compliance schedule may be necessary. Please review 40 CFR Part 403.12 (b) (6) & (7) plus 403.12 (i) and (k) carefully prior to completing and signing in any designated areas below. Please note that there are strict requirements governing who is a Qualified Professional and Authorized Representative. A copy of the pertinent regulations is attached for reference.

Α.	Qua	lified Professional Certification:
	1.	compliance certification: see a Hacked certification from Delisle Assoc.
		I am personally familiar with the operation(s) performed at the above-referenced facility and with the wastewaters discharged from these operation(s). I hereby certify that the
		40CFR 433.15 Metal Finishing
		(write in applicable Pretreatment Standards reference on the line above) are being met on a consistent basis.
		MIN. Chan Aero-Motive Co. Qualified Professional Representative Firm
••		For MACC 3/10/95

BMR - PAGE 5

VI.	CERTIFICATION	(continued):

2. NONCOMPLIANCE	CERTIFICATION	V
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I am personally performed at the the wastewater dishereby	above-refe scharged fr	renced fa	acility and operation	nd with
(write in application the line above basis. A compliance date rather appropriate commencement of di	e) are not b ance sched no later the Pretreatm	eing met ule is e an the da ent Stan	on a consenctors on a consenct value of the specified and or	sistent with a fied in upon
Qualified Profess	sional	Represe	ntative Fi	.rm
Title		D	ate	

B. Authorized Representative Certification:

I have reviewed the above-referenced document and accompanying professional certification. Based upon my inquiry of those individuals immediately responsible for obtaining the information reported therein, I believe that the submitted information is true, accurate and complete.

Charles P Cuseisen	
Signature	
President, Aero-Motive Co.	
Title	
3/10/95	
Date	

VII. COMPLIANCE SCHEDULE:

NA

Based upon the reply to the Certification secion above, please complete the proposed compliance schedule detailed below as required. Please note that no more that nine (9) months can elapse between dates within the proposed compliance schedule and that written updates must be submitted to the Control Authority within fourteen (14) days of each date in the compliance schedule.

PROPOSED COMPLIANCE SCHEDULE

Compliance Task	Date	of	Completion
Process flow and source data verification		,	
Selection of alternatives and, if necessary, pretreatment studies and enginneering design submitted to Control Authority	 		
Construction and, or, implementation of selected alternatives, if necessary.			
Complete Construction and, or, implementation of selected alternatives, if necessary.			
Final Compliance Date			

Aero-Motive Company

A Woodhead Industries, Inc. Subsidiary

Fax Message Date: 7/24/95 From: Mark Andersex To: CHY OF K'200 Fax No. 337 8699 Attention: Steve Lewis Total Pages Including This Sheet: 7 Reference: Test Results (Good News)
If You Do Not Receive All Pages Call Sender At (616) 337-7700
Message: Megge review RB test
Mease review RB test results + powder sample results
•

KAR Laboratories, Inc. 4425 Manchester Road Kalamazoo, MI 49002

(616) 381-9666

Aero-Motive 5688 East "ML" Ave. Kalamazoo, Mi 49001

Attn: Mr. Mark Anderson

KAR Project No.: 952070

Date Reported : 07/20/95
Date Activated : 07/11/95

Date Due : 07/20/95

Date Validated: 07/20/95

Project Description: Sampling and analysis of one outfall for three consecutive days.

Dear Client,

This laboratory report represents KAR Laboratories' analysis of samples associated with the above-referenced project. Unless otherwise stated (under "Comments" heading) all tests were performed within the maximum allowable holding times, have met or exceeded QC requirements and results represent the samples as they were received.

In the event that you need to contact us about this work please mention KAR Project No. 952070. To arrange additional sampling or testing please contact our Client Services Manager, Julie Addy. If you have a question regarding quality assurance please contact William Rauch.

Thank you for this opportunity to serve you. Please do not hesitate to call if we can provide additional assistance.

Respectfully submitted,

Michael J. Jaeger
Director of Laboratories

KAR Project No.: 952070

Date Reported : 07/20/95

Client: Aero-Motive

JUL-24-95 MON 15:56

Project Description: Sampling and analysis of one outfall for three consecutive days.

"AER, 24 Hr. Composite, 7/10-11/95, 11:30am-2:45pm" Sample ID:

Sampled By: SNH of KAR Laboratories

Date Received:

7/11/95

Sample Date:

Sample Type :

aqueous

Sample Time:

KAR Sample No.: 952070-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments	
PCB Aroclor 1016	<0.1	ug/L	EPA 8080A	7/19/95	MSZ		
PCB Arador 1221	<0.1	ug/L	EPA 8080A	7/19/95	MSZ		
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	7/19/95	MSZ		
PCB Aroclor 1242	<0.1	ug/L	EPA 8080A	7/19/95	MSZ		
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	7/19/95	MSZ		
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	7/19/95	MSZ		
PCB Aroclor 1260	<0.1	ug/L	EPA 8080A	7/19/95	MSZ		
PCR Amelors total	N/A		FPA BORDA	7/19/95	MS7		

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KAR Laboratories, Inc.

JUL-24-95 MON 15:56

Client: Aero-Motive

ANALYTICAL REPORT

KAR Project No.: 952070

Date Reported: 07/20/95

Project Description: Sampling and analysis of one outfall for three consecutive days.

"AER, 24 Hr. Composite, 7/11-12/95, 2:45-1:48pm" Sample ID:

Sampled By: SNH of KAR Laboratories Date Received: 7/12/95

Sample Type : aqueous Sample Date: Sample Time: KAR Sample No.: 952070-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PCB Aroclor 1016	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1242	<0.1	ugl	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclors, total	NA		EPA 8080A	7/19/95	MSZ	

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KAR Laboratories, Inc.

KAR Project No.: 952070

Date Reported: 07/20/95

Project Description: Sampling and analysis of one outfall for three consecutive days.

Sample ID: "AER, 24 Hr. Composite, 7/12-13/95, 1:48-2:30pm"

Sampled By: SNH of KAR Laboratories

Date Received:

7/13/95

Sample Date:

Client: Aero-Motive

Sample Type:

aqueous

Sample Time:

KAR Sample No.: 952070-03

Sample Time.		70-11 Sumple 110 302070-03				
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PCB Arocior 1016	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1260	<0,1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclors, total	NA		EPA 8080A	7/19/95	MSZ	

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KAR Laboratories, Inc.

KAR Project No.: 952414

Date Reported: 08/21/95

Client: Kalamazoo Water Reclamation Plant

Project Description: Analysis of one aqueous sample from Aeromotive (KWRP C-of-C

#14337).

"Aeromotive, AER22095" Sample ID:

Sampled By: DSH of KWRP

Sample Date: 8/8/95

Sample Time: 12:15pm

Date Received: 8/9/95

Sample Type: aqueous KAR Sample No.: 952414-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PCB Aroclor 1016	<0.1	ug/L	EPA 8080A	8/18/95	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8080A	8/18/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	8/18/95	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8080A	8/18/95	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	8/18/95	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	8/18/95	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8080A	8/18/95	MSZ	
PCB Aroclors, total	NA		EPA 8080A	8/18/95	MSZ	

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KAR Laboratories, Inc.

KAR Project No.: 962946

Date Reported: 11/11/96

Project Description: Sampling and analysis for IPP Monitoring.

Sample ID: "AER, Grab #1"

Sampled By: SNH of KAR Laboratories

Sample Date: 10/28/96 Sample Time: 12:20pm

Client: Aero-Motive

Date Received: 10/28/96 Sample Type: aqueous

Sample Type: aqueous KAR Sample No.: 962946-07

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	10/30/96	SAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8081	11/5/96	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8081	11/5/96	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8081	11/5/96	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8081	11/5/96	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8081	11/5/96	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8081	11/5/96	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8081	11/5/96	MSZ	
PCB Aroclors, total	NA		EPA 8081	11/5/96	MSZ	

Sample ID: "AER, Grab #2"

Sampled By: SNH of KAR Laboratories

Sample Date : 10/28/96 Sample Time : 4:10pm Date Received: 10/28/96
Sample Type: aqueous
KAR Sample No.: 962946-08

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PH	8.0	S.U.	EPA 150.1	10/28/96	SNH	
TPH (Gravimetric Method)	1	mg/L	EPA 413.1 mod.	11/7/96	PML	
Prep, ECD	Completed		EPA 3510	10/30/96	SAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8081	11/1/96	MSZ	_
PCB Aroclor 1232	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8081	11/1/96	MSZ	····
PCB Aroclor 1260	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclors, total	NA		EPA 8081	11/1/96	MSZ	

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KARLaboratories, Inc.

KAR Project No. : 962946

Date Reported: 11/11/96

Project Description: Sampling and analysis for IPP Monitoring.

Sample ID: "AER, Grab #3"

Sampled By: SNH of KAR Laboratories

Sample Date: 10/29/96 Sample Time: 10:20am

Client: Aero-Motive

Date Received: 10/29/96
Sample Type: aqueous
KAR Sample No.: 962946-09

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PH	7.8	S.U.	EPA 150.1	10/29/96	KAC	
TPH (Gravimetric Method)	<1	mg/L	EPA 413.1 mod.	11/7/96	PML	
Prep, ECD	Completed		EPA 3510	10/30/96	SAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclors, total	NA		EPA 8081	11/1/96	MSZ	

Sample ID: "AER, Grab #4"

Sampled By: SNH of KAR Laboratories

Sample Date: 10/29/96 Sample Time: 1:00pm Date Received: 10/29/96
Sample Type: aqueous
KAR Sample No.: 962946-10

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PH	8.2	S.U.	EPA 150.1	10/29/96	KAC	
TPH (Gravimetric Method)	<1	mg/L	EPA 413.1 mod.	11/7/96	PML	
Prep, ECD	Completed		EPA 3510	10/30/96	SAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Areclor 1242	<0.1	ug/L	EPA 3081	11/1/96	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8081	11/1/96	MSZ	
PCB Aroclors, total	NA		EPA 8081	11/1/96	MSZ	

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KARLaboratories, Inc.

KAR Project No.: 960954

Date Reported: 05/03/96

Project Description: Sampling and analysis of two outfalls for IPP Monitoring.

Sample ID: "AER, Grab #4"

Client: Aero-Motive

Sampled By: SNH of KAR Laboratories

Sample Date: 4/16/96

Sample Type: aqueous

Sample Time: 2:12pm

KAR Sample No.: 960954-10

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PH:	7.8	S.U.	EPA 150.1	4/16/96	CAS	
TPH (Gravimetric Method)	8	mg/L	EPA 413.1 mod.	4/19/96	PML	

Sample ID: "AER, Grab #5"

Sampled By: SNH of KAR Laboratories

Sample Date: 4/18/96

Sample Time: 4:08pm

Date Received: 4/18/96

Sample Type: aqueous

KAR Sample No.: 960954-11

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	4/24/96	SAS	· · · · · · · · · · · · · · · · · · ·
PCB Aroclor 1016	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8081	4/30/96	MSZ	· · · · · · · · · · · · · · · · · · ·
PCB Aroclor 1254	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8081	4/30/96	MSZ	·
PCB Aroclors, total	NA		EPA 8081	4/30/96	MSZ	

Sample ID: "AEP, Grab #5"

Sampled By: SNH of KAR Laboratories

Date Received: 4/18/96

Sample Date: 4/18/96

Sample Type: aqueous

Sample Date: 4/16/96 Sample Type: aqueous Sample Type: Sample Type: Sample Type: Sample Type: Sample Type: Aqueous Sample Type: Sample

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
MDNR Scan 2	See below		EPA 8020	4/29/96	MPB	
Prep, VOA	Completed	<u> </u>	EPA 5030	4/29/96	MPB	
Benzene	<1	ug/L	EPA 8020	4/29/96	MPB	
Ethylbenzene	<1	ug/L	EPA 8020	4/29/96	MPB	
M-and/or p-xylene	<1	ug/L	EPA 8020	4/29/96	MPB	· · · · · · · · · · · · · · · · · · ·

KAR Project No.: 960954

Date Reported: 05/03/96

Project Description: Sampling and analysis of two outfalls for IPP Monitoring.

Sample ID: "AEP, Grab #5"

Sampled By: SNH of KAR Laboratories

Sample Date: 4/18/96 Sample Time: 3:55pm

Client: Aero-Motive

Date Received: 4/18/96

Sample Type: aqueous KAR Sample No.: 960954-12

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
O-Xylene	<1	ug/L	EPA 8020	4/29/96	MPB	
Toluene	<1	ug/L	EPA 8020	4/29/96	MPB	

Sample ID: "AER, Grab #6"

Sampled By: SNH of KAR Laboratories

Sample Date: 4/19/96 Sample Time: 10:50am Date Received: 4/19/96
Sample Type: aqueous

KAR Sample No. : 960954-13

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	4/24/96	SAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1254	0.3	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclors, total	0.3	ug/L	EPA 8081	4/30/96	MSZ	

Sample ID: "AEP, Grab #6"

Sampled By: SNH of KAR Laboratories

Sample Date: 4/19/96 Sample Time: 10:42am Date Received: 4/19/96
Sample Type: aqueous
KAR Sample No.: 960954-14

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
MDNR Scan 2	See below		EPA 8020	4/29/96	MPB	
Prep, VOA	Completed		EPA 5030	4/29/96	MPB	
Benzene	<1	ug/L	EPA 8020	4/29/96	MPB	
Ethylbenzene	<1	ug/L	EPA 8020	4/29/96	MPB	
M-and/or p-xylene	<1	ug/L	EPA 8020	4/29/96	MPB	

KAR Project No.: 960954

Date Reported: 05/03/96

Project Description: Sampling and analysis of two outfalls for IPP Monitoring.

Sample ID: "AEP, Grab #6"

Sampled By: SNH of KAR Laboratories

Sample Date: 4/19/96 Sample Time: 10:42am

Client: Aero-Motive

Date Received: 4/19/96 Sample Type: aqueous

KAR Sample No.: 960954-14

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
O-Xylene	<1	ug/L	EPA 8020	4/29/96	MPB	
Toluene	<1	ug/L	EPA 8020	4/29/96	MPB	

Sample ID: "AER, Grab #7"

Sampled By: SNH of KAR Laboratories

Sample Date: 4/19/96 Sample Time: 12:50pm Date Received: 4/19/96
Sample Type: aqueous
KAR Sample No.: 960954-15

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	4/24/96	SAS	
PCB Aroclor 1016	<0.2	ug/L	EPA 8081	4/30/96	MSZ	Elevated detection limit due to sample matrix interference.
PCB Aroclor 1221	<0.2	ug/L	EPA 8081	4/30/96	MSZ	Elevated detection limit due to sample matrix interference.
PCB Aroclor 1232	<0.2	ug/L	EPA 8081	4/30/96	MSZ	Elevated detection limit due to sample matrix interference.
PCB Aroclor 1242	<0.2	ug/L	EPA 8081	4/30/96	MSZ	Elevaled detection limit due to sample matrix interference.
PCB Aroclor 1248	<0.2	ug/L	EPA 8081	4/30/96	MSZ	Elevated detection limit due to sample matrix interference.
PCB Aroclor 1254	<0.2	ug/L	EPA 8081	4/30/96	MSZ	Elevated detection limit due to sample matrix interference.
PCB Aroclar 1260	<0.2	ug/L	EPA 8081	4/30/96	MSZ	Elevated detection limit due to sample matrix interference.
PCB Aroclors, total	NA		EPA 8081	4/30/96	MSZ	

KAR Project No.: 960954

Date Reported: 05/03/96

Project Description: Sampling and analysis of two outfalls for IPP Monitoring.

Sample ID: "AEP, Grab #7"

Sampled By: SNH of KAR Laboratories

Sample Date: 4/19/96 Sample Time: 12:40pm

Client: Aero-Motive

Date Received: 4/19/96

Sample Type: aqueous KAR Sample No.: 960954-16

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
MDNR Scan 2	See below		EPA 8020	4/29/96	MPB	
Prep, VOA	Completed	<u> </u>	EPA 5030	4/29/96	MPB	· · · · · · · · · · · · · · · · · · ·
Benzene	<1	ug/L	EPA 8020	4/29/96	MPB	
Ethylbenzene	<1	ug/L	EPA 8020	4/29/96	MPB	·
M-and/or p-xylene	<1	ug/L	EPA 8020	4/29/96	MPB	
O-Xylene	<1	ug/L	EPA 8020	4/29/96	MPB	
Toluene	<1	ug/L	EPA 8020	4/29/96	MPB	

Sample ID: "AER, Grab #8"

Sampled By: SNH of KAR Laboratories

Sample Date : 4/19/96 Sample Time : 4:22pm Date Received: 4/19/96
Sample Type: aqueous
KAR Sample No.: 960954-17

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	4/24/96	SAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8081	4/30/96	MSZ	
PCB Aroclors, total	NA		EPA 8081	4/30/96	MSZ	·

KAR Project No.: 953616

Date Reported: 12/19/95

Project Description: Sampling and analysis of 12 aqueous samples.

Sample ID: "AER, Grab #1"

Client: Aero-Motive

Sampled By: SNH of KAR Laboratories Date Received: 12/4/95

Sample Date: 12/4/95 Sample Type: aqueous Sample Time: 12:17 KAR Sample No.: 953616-07

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PH	8.4	S.U.	EPA 150.1	12/4/95	CAS	
TPH (Gravimetric Method)	4	mg/L	EPA 413.1 mod.	12/14/95	CAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1260	<0.1	иg/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclors, total	NA		EPA 8080A	12/11/95	MSZ	

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KAR Laboratories, Inc.

KAR Project No.: 953616

Date Reported : 12/19/95

Project Description: Sampling and analysis of 12 aqueous samples.

Sample ID: "AER, Grab #2"

Sampled By: SNH of KAR Laboratories

Sample Date : 12/4/95

Client: Aero-Motive

Sample Time: 3:47

Date Received: 12/4/95

Sample Type: aqueous KAR Sample No.: 953616-08

						
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PH	8.2	S.U.	EPA 150.1	12/4/95	SNH	
TPH (Gravimetric Method)	8	mg/L	EPA 413.1 mod.	12/14/95	CAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclors, total	NA		EPA 8080A	12/11/95	MSZ	

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KAR Laboratories, Inc.

KAR Project No.: 953616

Date Reported: 12/19/95

Project Description: Sampling and analysis of 12 aqueous samples.

Sample ID: "AER, Grab #3"

Client: Aero-Motive

Sampled By: SNH of KAR Laboratories Date Received: 12/5/95

Sample Date: 12/5/95 Sample Type: aqueous
Sample Time: 10:42 KAR Sample No.: 953616-09

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PH	8.7	S.U.	EPA 150.1	12/5/95	CAS	
TPH (Gravimetric Method)	17	mg/L	EPA 413.1 mod.	12/14/95	CAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Arodor 1242	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclors, total	NA		EPA 8080A	12/11/95	MSZ	

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KAR Laboratories, Inc.

KAR Project No.: 953616

Date Reported: 12/19/95

Project Description: Sampling and analysis of 12 aqueous samples.

Sample ID: "AER, Grab #4"

Client: Aero-Motive

Sampled By: SNH of KAR Laboratories Date Received: 12/5/95

Sample Date: 12/5/95
Sample Time: 1:40
Sample Type: aqueous
KAR Sample No.: 953616-10

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PH	9.2	S.U.	EPA 150.1	12/5/95	CAS	
TPH (Gravimetric Method)	6	mg/L	EPA 413.1 mod.	12/14/95	CAS	
PCB Aroclor 1016	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8080A	12/11/95	MSZ	
PCB Aroclors, total	NA		EPA 8080A	12/11/95	MSZ	

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KAR Laboratories, Inc.

KAR Project No.: 951771

6/14/95

Date Reported:

Project Description: Sampling and analysis of two outfalls for IPP Monitoring.

Sample ID: "AEP, Grab #3"

Sampled By: GJE of KAR Laboratories

Sample Date: 6/14/95 Sample Time: 1:05pm

Client: Aero-Motive

4/95 Sample Type : aqueous 5pm KAR Sample No. : 951771-04

Test Result Units of Measure Method Analyzed Analyst Comments

Cyanide, total <0.02 mg/L EPA 335.2 6/22/95 CAS

Sample ID: "AEP, Grab #4"

Sampled By: SNH of KAR Laboratories

Sample Date : 6/14/95

Sample Time : 5:00p

Date Received: 6/14/95
Sample Type: aqueous
KAR Sample No.: 951771-05

Date Received:

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Cyanide, total	<0.02	mg/L	EPA 335.2	6/22/95	CAS	

Sample ID: "AER, 24 Hr. Composite, 6/13-14/95, 2:15-5:00p"

Sampled By: SNH of KAR Laboratories

Sample Date:

Sample Time:

Date Received: 6/14/95
Sample Type: aqueous
KAR Sample No.: 951771-06

						
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Cadmium, total	<0.005	mg/L	EPA 6010A	6/21/95	MTM	
Chromium, total	0.02	mg/L	EPA 6010A	6/21/95	MTM	
Copper, total	0.59	mg/L	EPA 6010A	6/21/95	MTM	
Lead, total, by ICP	0.09	mg/L	EPA 6010A	6/21/95	MTM	
Mercury, total	<0.0005	mg/L	EPA 7470A	6/20/95	MTM	
Nickel, total	<0.02	mg/L	EPA 6010A	6/21/95	MTM	
Zınc, total	0.37	mg/L	EPA 6010A	6/21/95	MTM	
PCB Aroclor 1016	<0.1	ug/L	EPA 8080A	6/27/95	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8080A	6/27/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	6/27/95	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8080A	6/27/95	MSZ	
PCB Aroclor 1248	<0.1	ug/L	EPA 8080A	6/27/95	MSZ	
PCB Aroclor 1254	0.3	ug/L	EPA 8080A	6/27/95	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8080A	6/27/95	MSZ	
PCB Aroclors, total	0.3	ug/L	EPA 8080A	6/27/95	MSZ	

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KAR Laboratories, Inc.

KAR Project No.: 952070

Date Reported: 07/20/95

Client: Aero-Motive

Project Description: Sampling and analysis of one outfall for three consecutive days.

"AER, 24 Hr. Composite, 7/10-11/95, 11:30am-2:45pm"

Sampled By: SNH of KAR Laboratories Date Received: 7/11/95

Sample Type: Sample Date: aqueous KAR Sample No.: 952070-01 Sample Time:

Test Result Units of Measure Method Analyzed Analyst Comments PCB Aroclor 1016 <0.1 ug/L **EPA 8080A** 7/19/95 MSZ PCB Aroclor 1221 <0.1 EPA 8080A 7/19/95 ug/L MSZ PCB Aroclor 1232 <0.1 EPA 8080A 7/19/95 MSZ ug/L PCB Aroclor 1242 <0.1 ug/L EPA BOSOA 7/19/95 MSZ PCB Aroclor 1248 <0.1 ug/L EPA 8080A 7/19/95 MSZ MSZ PCB Aroclar 1254 7/19/95 <0.1 EPA 8080A ug/L PCB Aroclor 1260 <0.1 EPA 8080A 7/19/95 MSZ Ug/L NA 7/19/95 MSŽ PCB Aroclors, total EPA 8080A



Client: Aero-Motive

ANALYTICAL REPORT

KAR Project No.: 952070

Date Reported: 07/20/95

Project Description: Sampling and analysis of one outfall for three consecutive days.

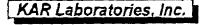
Sample ID: "AER, 24 Hr. Composite, 7/11-12/95, 2:45-1:48pm"

AERC MOTIVE MFG.

Sampled By: SNH of KAR Laboratories Date Received: 7/12/95

Sample Type: aqueous Sample Date: KAR Sample No.: 952070-02 Sample Time:

Analyzed Analyst Result Units of Measure Mathod Comments <0.1 7/19/95 MSZ PCB Aroclor 1016 ug/L EPA 8080A MSZ MSZ PCB Aroclor 1221 <0.1 EPA 8080A 7/19/95 Ugl 7/19/95 PCB Aroclor 1232 < 0.1 ug/L EPA 8080A <0.1 EPA 8080A 7/19/95 MSZ PCB Arocior 1242 ug/L EPA 8080A 7/19/95 PCB Aroclor 1248 <0.1 MSZ ug/L <0.1 EPA 8080A 7/19/95 MSZ PCB Aroclor 1254 ug/L 7/19/95 PCB Aroclor 1260 <0.1 ug/L EPA 8080A MSZ NA 7/19/95 PCB Aroclors, total EPA 8080A MSZ



KAR Project No.: 952070

Date Reported: 07/20/95

Client: Aero-Motive

Project Description: Sampling and analysis of one outfall for three consecutive days.

Sample ID: "AER, 24 Hr. Composite, 7/12-13/95, 1:48-2:30pm"

Sampled By: SNH of KAR Laboratories Date Received: 7/13/95

Sample Date: Sample Type : agueous

KAR Sample No.: 952070-03 Sample Time:

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
PCB Araciar 1016	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1221	<0.1	Ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Araclar 1248	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8080A	7/19/95	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 808QA	7/19/95	MSZ	
PCB Aroclors, total	NA	1	EPA 8080A	7/19/95	MSZ	





CITY OF KALAMAZOO, MICHIGAN

March 18, 1987

Mr. Bill Thacker James River Corp. 243 E. Patterson Kalamazoo, MI 49007

Dear Mr. Thacker:

Wastewater treatment is an important function in maintaining a high standard of living without degrading our natural environment. In recent years, local governments in the Kalamazoo Metropolitan area have worked together in constructing sewers and treatment facilities, which are now working to collect and treat wastewater in an environmentally sound manner.

As a condition of receiving Federal and State grants to assist in financing wastewater construction projects, there are Federal Regulations which must be observed. In particular, these regulations require that an Industrial Pretreatment Program (IPP) must be implemented. IPP goals are designed to prohibit wastes from entering the public sewer system, which might upset treatment plant processes, contaminate sludge or pass through the treatment plant untreated to the Kalamazoo River. These goals must be met in order to meet Federal Regulations, and also to protect our natural environment from possible pollutional effects of industrial wastewater discharges into the public sewer system.

As part of the approved IPP, the City of Kalamazoo is required to issue Administrative Orders to all significant users of the wastewater treatment system. A significant user is one which has a high strength waste, a high flow, a potential toxic discharge or is regulated by Federal categorical pretreatment standards. A typical Administrative Order will contain applicable specific discharge limits, reporting requirements, and possible pretreatment construction and compliance schedules. The Administrative Order will be used in conjunction with the sewer use ordinance and applicable Local, State or Federal statutes.

Mr. Bill Thacker Interim Administrative Order March 18, 1987 Page 2

Final Administrative Orders will be issued to all significant users, on a priority basis, as soon as practicable, with a target date that all orders will be issued by the middle of 1988. In the meantime, we are issuing Interim Administrative Orders. Enclosed with this correspondence is the Interim Administrative Order for your company or business. If you have any questions about any of this information, please feel free to contact us.

Sincerely,

Jean Eldred

Jean Eldred

Industrial Services Supervisor

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Interim Administrative Order

User Name: James River Corporation

User Address: 243 E. Patterson, Kalamazoo, MI 49007

Date of Issue: 3-18-87

- 1. Notification must be given to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any anticipated process changes, including but not limited to, flow and quality. All process changes that significantly affect wastewater flow and quality, must be approved by the Department of Public Utilites, prior to implementation.
- 2. Immediate notification must be given to the Department of Public Utilities of any spills, upsets in pretreatment processes, or slug loads that affect wastewater discharge to the public sewer. You must monitor your processes and activities daily to insure prompt detection of any problems. The phone number to call is 385-8157. This phone will be answered any time of the day or night. A written report, explaining the event, and what steps are being taken to prevent future occurrences, must be submitted, to the Industrial Servcies Supervisor, within three (3) working days following the event.
- 3. This Order does not relieve you of obligations under any Local, State, or Federal statutes, rules, or regulations, including but not limited to, categorical pre-treatment standards. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of ordinances, Chapter 28, and, if user is not located in the City of Kalamazoo, also in the applicable ordinance of the municipality in which the user is located.
- 4. You will be liable for all damages, which your discharge does to publicly owned wastewater collection or treatment systems, if that damage is caused by a violation of this Order or any applicable statute, ordinance, regulation or rule.
- 5. This Order is subject to change at the sole discretion of the City of Kalamazoo.
- 6. The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate.

Orlin K. Loen, P.E.

Director of Public Utilities



DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N Harrison Kalamazoo, Michigan 49007-2565 (616) 385-8157

January 14, 1988

Mr. William Thacker, Environmental Engineer James River Corporation 243 East Paterson Street Kalamazoo, Michigan 49007-2598

Dear Mr. Thacker:

In response to your letter to Mr. Orlin Loen, Director of Public Utilities, on December 22, 1987, enclosed is a revised Interim Administrative Order for the James River Corporation. Please note that item one (1) of this revised Order has been altered to reflect the new "process change" language referenced in the letter mentioned above.

Please call if you have any questions or comments.

Sincerely,

Bruce E. Merchant,

Ruce & Ment

Industrial Services Supervisor

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Interim Administrative Order

User Name:

James River Corporation

User Address:

243 E. Patterson, Kalamazoo, MI 49007

Date of Reissue: 1-14-88

- 1. Notification must be given to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any anticipated process changes that may substantially affect wastewater flow or quality. Process changes are defined as major plant expansions or modifications, which result in the discharge of new pollutants or the introduction of higher quantities of existing pollutants. All process changes that could significantly increase flow or significantly lower wastewater quality must be approved by the Department of Public Utilities prior to implementation.
- 2. Immediate notification must be given to the Department of Public Utilities of any spills, upsets in pretreatment processes, or slug loads that affect wastewater discharge to the public sewer. You must monitor your processes and activities daily to insure prompt detection of any problems. The phone number to call is 385-8157. This phone will be answered any time of the day or night. A written report, explaining the event, and what steps are being taken to prevent future occurrences, must be submitted, to the Industrial Servcies Supervisor, within three (3) working days following the event.
- 3. This Order does not relieve you of obligations under any Local, State, or Federal statutes, rules, or regulations, including but not limited to, categorical pre-treatment standards. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of ordinances, Chapter 28, and, if user is not located in the City of Kalamazoo, also in the applicable ordinance of the municipality in which the user is located.
- 4. You will be liable for all damages, which your discharge does to publicly owned wastewater collection or treatment systems, if that damage is caused by a violation of this Order or any applicable statute, ordinance, regulation or rule.
- 5. This Order is subject to change at the sole discretion of the City of Kalamazoo.
- 6. The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate.

Orlin K. Loén, P.E.

Director of Public Utilities

Interim Administrative Order

User Name:

James River Corporation

User Address:

243 E. Patterson, Kalamazoo, MI 49007

Date of Reissue: 1-14-88

- 1. Notification must be given to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any anticipated process changes that may substantially affect wastewater flow or quality. Process changes are defined as major plant expansions or modifications, which result in the discharge of new pollutants or the introduction of higher quantities of existing pollutants. All process changes that could significantly increase flow or significantly lower wastewater quality must be approved by the Department of Public Utilities prior to implementation.
- 2. Immediate notification must be given to the Department of Public Utilities of any spills, upsets in pretreatment processes, or slug loads that affect wastewater discharge to the public sewer. You must monitor your processes and activities daily to insure prompt detection of any problems. The phone number to call is 385-8157. This phone will be answered any time of the day or night. A written report, explaining the event, and what steps are being taken to prevent future occurrences, must be submitted, to the Industrial Servcies Supervisor, within three (3) working days following the event.
- 3. This Order does not relieve you of obligations under any Local, State, or Federal statutes, rules, or regulations, including but not limited to, categorical pre-treatment standards. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of ordinances, Chapter 28, and, if user is not located in the City of Kalamazoo, also in the applicable ordinance of the municipality in which the user is located.
- 4. You will be liable for all damages, which your discharge does to publicly owned wastewater collection or treatment systems, if that damage is caused by a violation of this Order or any applicable statute, ordinance, regulation or rule.
- 5. This Order is subject to change at the sole discretion of the City of Kalamazoo.
- 6. The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate.

Orlin K. Loen, P.E.

Director of Public Utilities

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KARLaboritories, Inc.

James River Corporation 1500 N. Pitcher

KAR Project No.:

961882

Kalamazoo, MI 49007-2598

Date Reperted: Date Activated:

07/23/98 07/19/95

Date Due:

07/23/96

4425 Manchester Road Kalamazoo, Mi 49001

Attn: Ms. Annette Wendland

07/23/98

Phone \$16 381-0666

Date Validated:

Fax 616 381-9698

Project Description: Analysis of one aqueous sample.

Dear Client,

Your laboratory data is presented to you in this report. Unless otherwise stated under the "Comments" heading, all tests were performed within the maximum allowable holding times, have met or exceeded QC requirements and the result represents the sample as it was received.

If you wish to contact us about this work please mention KAR Project No. 961882. To arrange additional sampling or testing please contact our Client Services Department. If you have a question regarding quality assurance please contact William Rauch.

Thank you for the opportunity to serve you. Please do not hesitate to call if we can provide additional assistance.

Respectfully submitted,

Michael J. Jaeger

Director of Laboratories

KAR Laboratories, Inc. maintains Full Cortification states for Backshology, Inorganics, Regulated Organics and Synthetic Organics through Michigan Department of Public Health and USEPA. This report may only be reproduced in full and not without the written consent of James River Corporation.



LABORATORY REPORT

TO

KAR Project No.: 981882

Date Reported: 07/23/96

Client: James River Corporation

Project Description : Analysis of one aqueous sample.

Sample IO: "River in-Take"

Sampled By : AW of James River

Sample Date: 7/19/96 Sample Time: 3:15pm Date Received: 7/19/96 Sample Type: aqueous KAR Sample No.: 961882-01

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KAFILaboratories, Inc. (618) 381-9866
Page 2



March 14, 1994

Mr. Kris Blake James River Epic Plant Food Wrap Business 400 Island Avenue Parchment, MI 49004-1394

Dear Mr. Blake:

Enclosed please find an Individual Control Document that is being issued for your facility served by the Kalamazoo Water Reclamation Plant. This is the main document used by the City of Kalamazoo Department of Public Utilities to adequately control and regulate what is discharged to the sanitary sewer from the facility. The Individual Control Document replaces the Administrative Order previously issued. Please read this document and all referenced materials carefully and thoroughly. Compliance with this Individual Control Document is a necessary condition of receiving wastewater service. Also enclosed are copies of the City of Kalamazoo Sewer Use Ordinance and Sewer Use Regulations #1-89, #91-1, and #94-1. These documents detail additional specific discharge requirements and regulations (see especially Section 28-10 of the Ordinance for a list of prohibited discharges) and are referenced in the Individual Control Document.

DEPARTMENT OF PUBLIC UTILITIES

Kalamazoo, Michigan 49007-2565

Water Reclamation 1415 N Harrison

(616) 337-8157 FAX (616) 337-8699

Please feel free to call me at 337-8715 or talk with the Industrial Pretreatment Inspector for your facility if you have any questions regarding this matter.

Sincerely,

Kent Mottinger

Industrial Services Supervisor

Kent Motting

c:

R. Cinabro, COK

K. Collard, COK

file

CITY OF KALAMAZOO WASTEWATER SERVICE

User Name:

James River Epic Plant

Food Wrap Business

Address:

400 Island Avenue

Parchment, MI 49004-1394

Date of Issue:

March 14, 1994

Expiration Date:

March 31, 1999

Individual Control Document

Table of Contents

Part I: General	
Discharge Standards	1
Compliance Schedule	1
Monitoring And Reporting	1
Effective Date and Expiration Date	2
Part II: Regulations and Requirements	3
Effect of Individual Control Document	3
Compliance with Applicable Law	3
Property Rights	
Non-transferability of Individual Control Document	
Reapplication And Continuance	
Duty To Reapply	
Continuation of Individual Control Document	
Inspection And Entry	
Reporting And Approvals	
Anticipated Process Changes Notification	
•	4
Notification Of Changes Impacting Discharge Limits Developed Under the	_
Combined Wastestream Formula And Approval Of Changes	5
Notification Of Changes Potentially Requiring Flow Weighted Averaging	_
Discharge Limits	
Notification Of Changed Discharge (Non-Emergency Situation)	
Notification Of Production Changes (If Applicable)	
Notification Of Potential Noncompliance	
Notification Of Slug Discharges	
Notification Of Violations	
Baseline Monitoring Report, 90-Day Compliance Report And Other	
Federally Mandated Reports	
Duty To Provide Information	7
Other Information	7
Telephone Numbers And Reporting Address	7
Signatory Requirements	8
Record Retention	8
Public Availability Of User Information	8
Proper Operation And Maintenance	8
Termination Of Service and Modification, Revocation Or Termination Of	
Individual Control Document	9
Termination Of Service	9
Modification, Revocation Or Termination Of Individual Control	
Document	9
Duty To Comply; Liability For Noncompliance	
Duty To Comply	
Penalties For Noncompliance	
Damages	
Public Notice Of Noncompliance	
·	
Termination Of Individual Control Document	
Cessation Of User Discharge	10

Duty To Mitigate	1
Conservation Recovery Act	1 1 2 2 2
Part III: Discharge Limitations, Monitoring Locations And ReportingLocal Discharge "End-Of-Pipe" Limitations13Process-Specific Discharge "End-Of-Process" Limitations14Discharge Prohibitions14Discharge Points And Monitoring Facilities14Self-Monitoring And Reporting14Frequency and Sampling Requirements14Reporting of Increased Monitoring Data15Repeat Sampling When Violation Indicated15Self-Monitoring Reports15Other User Specific Monitoring and Reporting Requirements16Averaging Of Measurements16Dilution Prohibition16Combined Wastestream Formula16User To Derive Alternative Discharge Limits Using CombinedWastestreamFormula	3 4 4 4 4 5 5 5 6 6 6
Record-Keeping	7
Part IV: Compliance ScheduleAction Required18Reporting18Effect Of Compliance Schedule18Inclusion Of Compliance Schedule Discretionary18Compliance With Schedule Milestones Not A Defense19Compliance With Federal Categorical Standards19	88889
Part V: Definitions	2

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part I: General

User Name:

James River Epic Plant

Food Wrap Business

Address:

400 Island Avenue

Parchment, MI 49004-1394

Phone:

616-384-6516

Contact:

Mr. Kris Blake

In accordance with the provisions of Kalamazoo Code 28-1 et seq., Michigan Administrative Code R.323.2162 et seq. and 40 CFR Chapter 1, Subchapter N, James River Epic Plant Food Wrap Business hereafter referred to as "User" which is synonymous with "Significant Industrial User" for the purpose of this document is authorized to discharge nondomestic wastewater from the above identified facility and through the outfalls identified herein into the wastewater system of the City of Kalamazoo in accordance with the terms and conditions set forth in this Individual Control Document.

A. Discharge Standards

Specific limits on applicable pollutants discharged to the sanitary sewer are presented in Part III.

B. Compliance Schedule

As required, areas of noncompliance or a time-frame to achieve compliance with new requirements, shall be resolved on the specified timetable included in Part IV.

C. Monitoring And Reporting

User shall install and maintain necessary monitoring systems and pretreatment equipment. User shall perform any required wastestream sampling and analyses. Additional requirements pertaining to monitoring and reporting of monitoring results are set forth in Part II and Part III.

D. Effective Date and Expiration Date

KDP. COLL

This Individual Control Document is effective as of April 1, 1994 and authorizes User's discharge, subject to the conditions set forth in Parts I, II, III, IV, and V herein, until midnight, March 31, 1999.

Kenneth P. Collard

Director of Public Utilities

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part II: Regulations and Requirements

User Name: James River Epic Plant

Food Wrap Business

400 Island Avenue Address:

Parchment, MI 49004-1394

Phone: 616-384-6516

Mr. Kris Blake Contact:

A. Effect of Individual Control Document

1. Compliance with Applicable Law

This Individual Control Document does not relieve the User of its obligations under any local, state, or federal statutes, ordinances, rules, or regulations. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of Ordinances (Chapter 28), and in any associated Wastewater Use Regulations. User shall comply with all applicable federal, state, and local pretreatment laws, regulations, rules, ordinances, and other pretreatment requirements, including those that may become effective during the term of this Individual Control Document.

2. **Property Rights**

This Individual Control Document does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to persons or property, invasion of other private rights, or any infringement of federal, state or local laws, regulations, rules, ordinances, or other requirements.

3. Non-transferability of Individual Control Document

This Individual Control Document applies only to the aforementioned identified User and shall not be transferred to another User. A copy of this Individual Control Document must be provided to any new owner/operator of the User's facility prior to the transfer of ownership and/or operator responsibility. User shall adequately document such action (i.e., by certified mail receipt or a signed statement by the owner/operator) and shall provide a copy of the notice or signed statement to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, within seven (7) days of such action.

B. Reapplication And Continuance

1. Duty To Reapply

If User wishes to continue an activity authorized by this Individual Control Document after its expiration date, User must submit a renewal application at least ninety (90) days prior to the expiration date of this Individual Control Document (unless permission for a later submission date has been granted in writing by the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities).

2. Continuation of Individual Control Document

Authorization to discharge under the terms and conditions of this Individual Control Document continues after the expiration date, subject to the conditions set forth herein, only if (a) User has submitted a timely and complete application for reissuance of an Individual Control Document and (b) the City of Kalamazoo, through no fault of User, has not yet provided the User a written determination as to whether an Individual Control Document will be reissued. Such authorization to discharge continues only until the date upon which the reapplication is reissued to User or the City of Kalamazoo provides User written notice that an Individual Control Document will not be reissued, whichever comes first.

C. Inspection And Entry

User shall allow authorized Kalamazoo Department of Public Utilities' staff members and their authorized agents and representatives to enter upon the User's premises where a regulated facility or activity is located or conducted, or where records are kept pertaining to such facility or activity 1) at all reasonable times whether or not discharge is occurring, and 2) at any time when there is a reason to believe a discharge or violation is occurring, for inspecting all operations and records, equipment (including monitoring and control equipment), copying records, and observing and sampling wastewater discharges or production processes.

D. Reporting And Approvals

1. Anticipated Process Changes Notification

a. User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any anticipated process change which may substantially affect User's wastewater flow or quality. Process changes under this section are defined as major plant expansions or modifications which result in the discharge of (i) new pollutants, (ii) changed pollutants (e.g., BOD) such that the Kalamazoo treatment plant would be receiving a wastestream to which it is not acclimated, or (iii) the introduction of higher quantities or concentrations of existing pollutants. All process changes that could substantially increase User's flow or substantially affect User's

wastewater quality (e.g., lower User's wastewater quality) must be approved by the Department of Public Utilities prior to implementation.

b. The Department of Public Utilities may require the User to undertake a compatibility study to demonstrate to the satisfaction of the Department that the wastewater to be discharged is compatible with the existing Kalamazoo wastewater system, will not affect any requirements imposed upon the City (including sludge disposal requirements) and will not adversely affect the Kalamazoo wastewater system.

2. <u>Notification Of Changes Impacting Discharge Limits Developed Under the Combined Wastestream Formula And Approval Of Changes (If Applicable)</u>

- a. If User is subject to alternative discharge limits based upon the combined wastestream formula (40 CFR § 403.6(e)), User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, within five (5) business days after the User has a reasonable basis to believe that an anticipated plant operation change may result in a material or significant change in the values used in calculating alternative categorical discharge limits under the combined wastestream formula. Plant operation changes under this subsection include, but are not limited to, changes in production and changes in the flow of a regulated process wastestream, unregulated process wastestream or dilute wastestream.
- b. User shall provide the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, written notification of its intent to mix a regulated process wastestream prior to its treatment with wastewaters other than those generated by the regulated process. Such mixing of wastestreams must be approved by the Department of Public Utilities prior to implementation. These provisions do not apply to mixtures of regulated process wastestreams which have already been identified to the City of Kalamazoo and which are subject to an effluent limitation in Part III based upon the combined wastestream formula or a more stringent state or local limitation. (See also Part III, Section VIII pertaining to User derivation of alternative discharge limits.)

3. <u>Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits</u>

User shall provide the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, at least thirty (30) days written notification of its intent to combine an unregulated process wastestream with a treated regulated process wastestream if monitoring for compliance with applicable categorical pretreatment standards occurs at a point downstream of where the wastestreams are combined. Such action may require modification of discharge limits in Part III based upon the flow-proportioning calculation or modification of sampling locations, as appropriate.

4. Notification Of Changed Discharge (Non-Emergency Situation)

User shall provide written notification to the Industrial Services Supervisor, at the Department of Public Utilities within five (5) working days, of any substantial change in the volume or character of pollutants in its discharge, including changes in the listed or characteristic hazardous wastes for which the User has submitted a notification under 40 CFR § 403.12(p).

5. Notification Of Production Changes (If Applicable)

Not Applicable

6. Notification Of Potential Noncompliance

User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any planned changes in its activities which may result in noncompliance with the terms and conditions set forth herein.

7. Notification Of Slug Discharges

User shall provide immediate notification by telephone to the Department of Public Utilities of any spills, slug loads, bypasses or upsets in pretreatment processes that affect discharge to the wastewater system, could cause problems to Kalamazoo's wastewater system or which otherwise could be reasonably expected to endanger health or the environment. User must monitor its processes and activities to assure prompt detection of any problems. A written report, explaining the event, and what steps are being taken to prevent future occurrences, must be submitted to the Industrial Services Supervisor within five (5) working days following the event.

8. Notification Of Violations

If sampling performed by the User indicates a violation of any local, state or federal discharge limitations, the User must notify by telephone the City of Kalamazoo Department of Public Utilities within 24 hours of becoming aware of the violation.

9. <u>Baseline Monitoring Report, 90-Day Compliance Report And Other Federally Mandated Reports</u>

User shall comply with baseline monitoring report requirements, ninety-day compliance report, and other federally mandated reporting requirements as set forth in 40 CFR § 403 et seq.

10. Duty To Provide Information

User shall furnish the City of Kalamazoo, within a reasonable time, any information which the City may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the Individual Control Document or to determine User pretreatment compliance. User shall also furnish to the City, upon request, copies of records required to be kept by the Individual Control Document.

11. Other Information

Where the User becomes aware that it failed to submit any relevant facts in an application for an Individual Control Document, or submitted incorrect information in an application for an Individual Control Document, report to the City of Kalamazoo, or in any other correspondence pertaining to its nondomestic wastewater discharge, it shall promptly submit such facts or information.

12. Telephone Numbers And Reporting Address

- a. Any notifications or reports required by this Individual Control Document regarding spills, slug discharges, or other emergencies to be communicated via telephone to the Public Utilities Department shall use the following telephone numbers:
 - (1) Telephone the Treatment Control Analyst (TCA) at 337-8680. If the TCA does not answer, leave a message on the recorder and proceed to Number 2.
 - (2) Dial the TCA's Pager Number, 671-1715. After you hear the three short beeps, promptly enter YOUR phone number then hang up. The TCA will return your call immediately.
- b. For non-emergency notifications or general telephone communications use 337-8157.
- c. Any written notifications or reports required by this Individual Control Document to be submitted to the Kalamazoo Public Utilities Department shall be submitted to the following address:

Industrial Services Supervisor
City of Kalamazoo Public Utilities Department
1415 North Harrison Street
Kalamazoo, Michigan 49007-2565

E. Signatory Requirements

All reports required under this Individual Control Document or otherwise submitted to the Kalamazoo Public Utilities Department pursuant to federal, state or local pretreatment requirements shall be signed by a representative of the User in accordance with 40 CFR § 403.12(1) and shall include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

F. Record Retention

User is required to retain all records pertaining to its wastewater discharge for a minimum of three (3) years and shall make such reports available for inspection and copying by the City. This includes, but is not limited to, all records of monitoring activities and results (whether or not such monitoring activities are otherwise required by the Individual Control Document) including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation; monitoring information identified in Part III; copies of reports required by the Individual Control Document; and records of all data used to complete the application for issuance or reissuance of this document. This period of retention is automatically extended during the course of any unresolved litigation regarding the discharge of pollutants or when requested in writing by the City of Kalamazoo at any time.

G. Public Availability Of User Information

At a minimum, the following User information received by the City of Kalamazoo shall be made available for public inspection by the Department of Public Utilities: (1) effluent data; (2) any data used to determine compliance with Chapter 28 of the Kalamazoo Code or the National Pollutant Discharge Elimination Permit issued to the City of Kalamazoo; and (3) other User information and data, to the extent provided by 40 CFR § 403.13(b) and (c).

H. Proper Operation And Maintenance

User shall at all times properly operate and maintain all pretreatment facilities and systems of treatment and control (and related appurtenances) which are installed or used by the User to achieve compliance with the terms and conditions of this Individual Control Document. This includes adequate laboratory controls and appropriate quality assurance procedures, the operation of back-up or auxiliary

facilities or similar systems which are installed by the User only when the operation is necessary to achieve compliance with the conditions of this Individual Control Document.

I. <u>Termination Of Service and Modification, Revocation Or Termination Of Individual</u> Control <u>Document</u>

1. Termination Of Service

The Department of Public Utilities can take immediate action to terminate service and/or halt discharges if the User's discharge poses a significant threat to the City's wastewater collection or treatment system, the environment, or human health or welfare.

2. Modification, Revocation Or Termination Of Individual Control Document

- a. This Individual Control Document, or any part thereof, is subject to change, modification, revocation or reissuance at the sole discretion of the City of Kalamazoo.
- b. A request by the User for modification or revocation and reissuance does not stay any term or condition set forth herein pending a decision by the City of Kalamazoo upon such request.

J. Duty To Comply; Liability For Noncompliance

1. Duty To Comply

User must comply with (a) all terms and conditions of this Individual Control Document and (b) applicable pretreatment requirements established under federal, state or local law whether or not those requirements are specifically set forth herein. These requirements include, but are not limited to, federal categorical pretreatment standards (40 CFR Chapter 1, Subchapter N); federal general prohibitions (40 CFR § 403.5(a)(1); federal specific prohibitions (40 CFR § 403.5(b), and local limits set forth in Chapter 28 of the Kalamazoo City Code of Ordinances. Any noncompliance constitutes a violation and is grounds for enforcement action, for Individual Control Document termination, revocation and reissuance, modification, or denial of a request for reissuance.

2. Penalties For Noncompliance

Noncompliance with any terms or conditions of this Individual Control Document, any applicable statute, ordinance, regulation, rule, or other pretreatment requirement may subject the User to civil and/or criminal penalties. These penalties include, but are not limited to, a fine of \$25,000 per day for each violation under federal law (33 U.S.C. § 1319(d)) and the administrative assessment of up to \$500.00 per day per violation under local law (City of Kalamazoo Wastewater Use Regulation 1-89).

3. Damages

In addition to any applicable civil or criminal penalty, User is liable for:

- a. All damage which its discharge does to the City of Kalamazoo's wastewater collection or treatment system if that damage is caused, in whole or in part, by the User's violation of this Individual Control Document or any applicable law, ordinance, regulation, rule, or pretreatment requirement.
- b. Any penalty imposed upon the City of Kalamazoo (whether by judicial or administrative order or the settlement of a judicial or administrative penalty action) where the violation of the City of Kalamazoo was caused by the User, either alone or in conjunction with discharge(s) from other source(s).
- c. Such other damages, e.g., lost revenues, as are authorized by law to be collected by the City of Kalamazoo.

4. Public Notice Of Noncompliance

If User is determined by the City of Kalamazoo to be in significant noncompliance, as defined in 40 CFR § 403.8(f)(2)(vii), the City of Kalamazoo shall provide an annual public notification of such status in a local daily newspaper.

5. Termination Of Individual Control Document

Compliance with this Individual Control Document is a necessary condition of receiving wastewater service. The City of Kalamazoo may terminate this Individual Control Document and wastewater service for, among other things, noncompliance with any of the terms or conditions set forth herein, or any requirements set forth in an applicable law, ordinance, regulation, or rule.

6. <u>Cessation Of User Discharge</u>

Upon notice from Kalamazoo, User shall immediately cease any discharge of pollutants which reasonably appears to present an imminent endangerment to the health or welfare of persons, presents an endangerment to the environment or which threatens to interfere with the operation of the Kalamazoo wastewater system.

7. Duty To Mitigate

User shall take all reasonable steps to minimize or prevent any discharge which has the reasonable likelihood of adversely affecting human health, the environment, or the Kalamazoo wastewater system.

8. Need To Halt Ur Reduce Activity Not A Defense

It shall not be a defense for the User in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the terms and conditions of this Individual Control Document, or any requirements set forth in an applicable law, ordinance, regulation or rule.

9. Kalamazoo Reservation Of Rights

Nothing in this Individual Control Document shall be deemed to limit or otherwise waive the liability of User to the City of Kalamazoo under local, federal, or state law (including common law), for damages, injury, loss, or other liability resulting from User's discharge to the Kalamazoo wastewater system. Nor shall any provision in this Individual Control Document be deemed to limit the ability of the City of Kalamazoo to take action, as necessary, to enjoin or abate User's discharge.

K. <u>Notification Of Responsibilities Under The Clean Water Act And Resource</u> <u>Conservation Recovery Act</u>

User is hereby notified of its legal responsibility to comply with applicable pretreatment standards (See 40 CFR Chapter I, Subchapter N), sections 204(b) and 405 of the Clean Water Act, and Subtitles C and D of the Resource Conservation and Recovery Act (See e.g., 40 CFR § 261 et seq.). This includes the duty to notify the City of Kalamazoo, the U.S. Environmental Protection Agency, and the State of Michigan pursuant to 40 CFR § 403.12(p) of any discharge into Kalamazoo's treatment plant which, if otherwise disposed of, would be a hazardous waste under 40 CFR § 261.

L. Spill Prevention

User shall install any equipment or devices necessary to prevent any spillage or leakage of process solutions or chemicals from entering the wastewater system. Additionally, the User shall store bulk chemicals and toxic wastes in such a manner to prevent any accidental discharge to the wastewater system in the event of a spill.

M. Slug Discharge Control Plan (If Applicable)

1. Submission Of Draft Plan

Specified Date: Not Applicable.

By date specified above, User shall submit a draft slug control plan to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities. Such plan, at a minimum, shall address the following elements:

a. Description of discharge practices, including non-routine batch discharges;

- b. Description of stored chemicals;
- c. Procedures for immediately notifying the Kalamazoo Department of Public Utilities of slug discharges, including any discharge that would violate a specific prohibition (see 40 CFR § 403.5(b)), with procedures for follow-up written notification within five (5) days;
- d. Procedures as necessary to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents) and/or measures and equipment necessary for emergency response.

2. Revision Of Draft Plan

User shall revise its draft slug control plan in accordance with comments received from the City of Kalamazoo within thirty days, unless a longer time period is provided in writing by Kalamazoo.

3. Compliance With Approved Plan

User shall comply with the slug control plan as approved, including any changes set forth by the Kalamazoo Department of Public Utilities.

N. Authorized Kalamazoo Representatives

The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate in responding to User's pretreatment obligations. These activities include, but are not limited to, termination of service, enforcement and inspection.

O. Severability

The provisions of this Individual Control Document are severable, and if any provision of this document or the application of any provision of this document to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this document, shall not be affected thereby.

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part III: Discharge Limitations, Monitoring Locations And Reporting

User Name:

James River Epic Plant

Food Wrap Business

Address:

400 Island Avenue

Parchment, MI 49004-1394

Phone:

616-384-6516

Contact:

Mr. Kris Blake

A. Local Discharge "End-Of-Pipe" Limitations

1. These limitations and sampling requirements apply to the discharge from your facility to the wastewater system at the designated monitoring location described in (2) below. Please refer to the City of Kalamazoo Code, Chapter 28, (or the applicable ordinance of the municipality where the facility is located) and Part III (C) below for prohibited discharge limitations.

<u>Pollutants</u>	<u>Daily Max.</u> mg/L	Minimum Sampling Frequency	<u>Sample</u> <u>Type</u>
Cadmium, T	0.040	Semi-annual	Composite
Chromium, T	4.67	Semi-annual	Composite
Copper, T	2.23	Semi-annual	Composite
Lead, T	0.110	Semi-annual	Composite
Nickel, T	1.59	Semi-annual	Composite
Zinc, T	5.30	Semi-annual	Composite
Cyanide, T	0.250	Semi-annual	Grab
Petroleum Hydrocarbon	100	Semi-annual	Grab
рH	6.2-9.8 S.U.	Semi-annual	Grab
Mercury, T	prohibited	Semi-annual	Composite
PCBs,T	prohibited	Not Required	Composite

The detection limit shall not exceed 0.2 ug/L for PCB and 0.5 ug/L for mercury, unless higher levels are appropriate because of sample matrix interference.

2. The following location is a designated "end-of-pipe" monitoring location for the facility:

Code Monitoring Location Description

JRP Monitoring manhole east of the employee picnic area. In the

curblawn north of the power pole.

B. Process-Specific Discharge "End-Of-Process" Limitations

Not applicable.

C. Discharge Prohibitions

User shall not cause interference or pass through; or discharge in violation of the specific prohibitions set forth in 40 CFR § 403.5(b) or the prohibited discharge requirements set forth in the City of Kalamazoo Code (or the applicable ordinance of the municipality where the facility is located).

D. Discharge Points And Monitoring Facilities

User may discharge nondomestic wastes into the Kalamazoo treatment system only at the sampling locations identified in Part III (A) and (B). Alternate discharge or sampling points may only be used upon written approval from the Industrial Services Supervisor at the City of Kalamazoo. User shall maintain monitoring locations and associated equipment. User shall also install equipment or implement other verifiable techniques to measure flow. User may be required, at the discretion of the City of Kalamazoo to install and maintain automatic sampling equipment.

E. Self-Monitoring And Reporting

1. Frequency and Sampling Requirements

a. User shall perform the following sampling and analyses: An adequate number of samples shall be collected to ensure that the process discharge equipment is operating properly and that the wastewater discharge does not violate limitations set forth in this Individual Control Document. At a minimum, samples shall be collected at least as frequently as specified in Part III (A) and (B) for all pollutants listed. For pollutants with a "grab" sample technique indicated, a minimum of four (4) grab samples must be used. All other samples must be 24 hour flow

proportional composite samples where feasible. If flow proportional compositing is infeasible, samples may be obtained through time proportional composite sampling techniques.

- b. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken on a day when the regulated pollutants are likely to be present in their maximum concentration, including monitoring of batch discharges should such discharges occur.
- c. All sampling and analyses shall be conducted according to EPA-approved methods set forth in 40 CFR § 136 or other validated procedures approved by the Director of Public Utilities.

2. Reporting of Increased Monitoring Data

User may monitor more frequently than required by this Individual Control Document. If the User monitors any pollutant more frequently than required by this Individual Control Document using the procedures set forth in 40 CFR § 136, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the User's self-monitoring report.

3. Repeat Sampling When Violation Indicated

If sampling performed by the User indicates a violation, the User shall:

- a. Notify the City of Kalamazoo within 24 hours of becoming aware of the violation.
- b. Repeat sampling and analyses for the pollutant(s) in violation.
- c. Submit the results of the repeated analyses to the Industrial Services Supervisor within 30 days after becoming aware of the violation.

More than one resample may be required to establish a return to compliance.

4. Self-Monitoring Reports

Self-monitoring reports shall be submitted Semi-Annually. The first self-monitoring report shall be submitted by July 10, 1994 and shall contain information for January 1, 1994 through June 30, 1994. Reports for each period shall be due on the tenth of the month following the period. Reporting forms supplied by the City of Kalamazoo to the User, if applicable, shall be used and appropriately completed. At a minimum the reports shall contain:

- a. Average and maximum daily flows for the period.
- b. Results of all sampling performed by the User during the specified period.

c. Certification Statement: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. Other User Specific Monitoring and Reporting Requirements

Not Applicable

F. Averaging Of Measurements

Calculations for limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Individual Control Document or in the applicable federal, state or local pretreatment standards.

G. Dilution Prohibition

Except where expressly authorized to do so by an applicable pretreatment standard or requirement, User shall not increase the use of process water, or in any other way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a pretreatment standard or requirement.

H. Combined Wastestream Formula

1. <u>User To Derive Alternative Discharge Limits Using Combined Wastestream Formula</u>

Where a regulated process wastestream is to be mixed prior to its treatment with wastewaters other than those generated by the regulated process, the User shall derive alternative discharge limits for each regulated pollutant in each process wastestream pursuant to the combined wastestream formula set forth in 40 CFR § 403.6(e). This requirement does not apply to mixtures of regulated process wastestreams which have already been identified by the User to the City of Kalamazoo.

2. Alternative limits derived by the User shall not apply to the User until approved or modified in writing by the City of Kalamazoo. User shall comply with the discharge limits set forth in Part III (A) and (B) until the City of Kalamazoo modifies the limits or approves a modification request.

I. Record-Keeping

User shall maintain records of monitoring of wastewater at its (1) end of pipe, (2) end of process, and (3) any other internal wastestream monitoring regardless if the User is otherwise required by this Individual Control Document to monitor its wastewater at such locations, frequencies, or pollutant parameters. Records shall include:

- 1. The dates, exact location, method and time of sampling or measurements and the individual(s) who performed the sampling or measurements;
- 2. The date(s) analyses were performed, the analytical techniques or methods used, the individual(s) who performed the analyses, and the results of such analyses.

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document
Part IV: Compliance Schedule

User Name:

James River Epic Plant

Food Wrap Business

Address:

400 Island Avenue

Parchment, MI 49004-1394

Phone:

616-384-6516

Contact:

Mr. Kris Blake

A. Action Required

Not Applicable.

ANY PERMITS OR APPROVALS WHICH MUST BE OBTAINED FROM OTHER GOVERNMENTAL AGENCIES ARE THE RESPONSIBILITY OF THE USER. The City of Kalamazoo does not by its approval of any of the designs or installation of the plants and equipment, warrant or aver in any manner that User's implementation of such measures will result in compliance with User's pretreatment requirements. Notwithstanding any approval of such plans by the City of Kalamazoo, User remains solely responsible for compliance with the terms of this Individual Control Document and federal, state and local requirements.

B. Reporting

Reports of compliance or noncompliance with, or any progress reports on requirements set forth in Part IV Section I, above, shall be submitted to the City of Kalamazoo no later than 14 days following each schedule date. Reports shall, at a minimum, identify whether the User has complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the User to return to the established schedule. (40 CFR § 403.12(c))

C. Effect Of Compliance Schedule

1. <u>Inclusion Of Compliance Schedule Discretionary</u>

The City of Kalamazoo may amend this Individual Control Document, at its discretion, to include a compliance schedule to address any instances of noncompliance with a federal, state or local pretreatment requirement, including noncompliance with the terms and conditions set forth in this Individual Control Document. A compliance schedule may also be included to set forth reasonably expeditious milestones for complying with new federal, state or local requirements.

2. Compliance With Schedule Milestones Not A Defense (If Applicable)

Compliance with the milestones set forth in Part IV, Section I, above, does not absolve the User from its legal obligations to comply with the requirements as otherwise set forth in this Individual Control Document or any applicable federal, state or local law, regulation, rule, ordinance or pretreatment requirement. Accordingly, it shall not be a defense to an enforcement action that the User complied with the milestones set forth above.

3. Compliance With Federal Categorical Standards

Compliance by existing sources with federal categorical pretreatment standards shall be within three (3) years of the date the standard is effective unless a shorter compliance time is specified in the applicable subpart of 40 CFR Chapter I, Subchapter N. New sources shall meet all applicable pretreatment standards within the shortest feasible time not to exceed ninety (90) days. At a minimum, User shall submit to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, semi-annual notices (on the first day of the months of April and October) identifying specific actions taken to comply with such standards.

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part V: Definitions

User Name: James River Epic Plant

Food Wrap Business

Address: 400 Island Avenue

Parchment, MI 49004-1394

Phone: 616-384-6516 Contact: Mr. Kris Blake

Except as provided below, terms set forth herein shall be defined as set forth in Kalamazoo Code § 28-1 or Wastewater Use Regulations. If a term is not defined below or in the Kalamazoo Code or Wastewater Use Regulations, then it shall be defined as set forth in corresponding federal regulations. (See, e.g., 40 CFR § 403.3.)

- A. <u>Daily Maximum</u>: The maximum allowable discharge of a pollutant during a calendar day. Where daily maximum discharge limits are expressed in units of mass, the daily discharge is the total mass discharges over the course of the day. Where daily maximum limitations are expressed in terms of concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.
- B. <u>Domestic Waste</u>: Human waste and other waste related to personal or residential sanitation including hauled septage waste.
- C. Flow Proportional Composite Sample: A sampling method which combines discrete aliquots of a sample collected over time, based on the flow of the wastestream being sampled. The aliquots collected shall be at constant time intervals with the volume of each aliquot varying based upon the stream flow. Flow proportional samples can also be a combination of constant volume samples collected at time intervals which vary based on the stream flow.
- D. <u>Grab Sample</u>: A sample which is taken on a one-time basis with no regard to the flow of the wastestream and without consideration of time.
- E. <u>Monthly Average</u>: The sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. If the pollutant concentration in any sample is less than the detection limit, a value of zero is used in calculating the monthly average concentration.

- F. <u>Non-Domestic Wastewater</u>: Wastewater that contains nondomestic waste including contaminated groundwater and leachate.
- G. Regulated Process Wastestream: An industrial process wastestream regulated by a national categorical pretreatment standard. Such determination may be pollutant specific a wastestream from a process may be "regulated" for one pollutant and "unregulated" for another.
- H. <u>Time Proportional Composite Sample</u>: A sampling method which combines discrete sample aliquots of constant volume collected at constant time intervals.
- I. <u>Unregulated Process Wastestream</u>: An industrial process wastestream that is not regulated by a national categorical pretreatment standard. Such determination may be pollutant specific a wastestream from a process may be "regulated" for one pollutant and "unregulated" for another.

INDIVIDUAL CONTROL DOCUMENT - RECEIPT

		RIVER	_
Delivery of the Individual Control Document effective April 1, 1994, is acknowledged. Document were copies of the City of Kalamazo Regulations #1-89, #91-1, and #94-1.	Delivered wit	h the Indi	vidual Contro
Received by: Kistyr J. Olske	Date:3	124	, 1994
Delivered by:	Date:	3/24	, 1994

WORKSHEET FOR ISSUING NEW ICDs

User Name: JAMES RIVER EPIC PLANT	SiteName: SAME
Address: FOOD WRAP BUSINESS	Address: SAM€
400 ISLAND AVENUE	SAME
City/St/Zip PARCHMENT NI 49004-1394	City/St/ZipSAME
Phone: 384-6252	Phone: SAME
Contact: MR, KRIS BLAKE	Contact: No per KM
Effective Date of ICD:April 1, 1994	No per KM
Issue Date of ICD:March 25, 1994	
Expiration Date of ICD:March 31, 199	9
(23) Notification of Production Changes if A	Applicable: (blank pg. 6)
X Not Applicable	
this Individual Control Documer Kalamazoo within two (2) busing basis to know that the product the next calendar month. A sig	Ilculate equivalent mass per day limits in not is (RATE). User shall notify the City of ness days after the User has a reasonable tion level will significantly change within nificant change is an increase or decrease NUMBER =
(24) Slug Discharge Control Plan (if Applica	ble) (blank pg. 11)
Not ApplicableCurren	nt plan on file.
Specified Date:	
(1/2) Reporting frequency:semi-annua	allyquarterly
(25) First report due:	(if different than July 10, 1994)
(26,27) Covers period	_ through

Mercury Exemption: User has been granted a contingent exemption to the mercury prohibition at designated locations per Department of Public Utilities letter. User shall provide a certification statement with its Self-Monitoring Reports that it is maintaining the Mercury Elimination/Minimization Program at the facility. Certification Alternative to TTO Monitoring: 40CFR Part 433.12 allows users to request a certification alternative to Total Toxic Organic (TTO) monitoring. The User may make the following certification statement: "Based upon my inquiry of the person or persons directly responsible for managing compliance with the pretreatment standard for Total Toxic Organics, I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to the control authority." In requesting the certification alternative, a User shall submit a solvent management plan that specifies to the satisfaction of the City: the toxic organic compounds used; the method of disposal used instead of dumping to the sanitary sewer, such as reclamation, contract hauling, or incineration; and procedures for ensuring that toxic organics do not routinely spill or leak into wastewater discharged to the sanitary sewer. Paper Mills: User shall provide certification that pentachlorophenolic- and trichlorophenolic-based biocides are not used. If these biocides are used, daily maximum discharge	(28) Other User specific Monitoria and Reporting Requirements (bla.pg. 16)
Records Specialist. The report shall be due each month by the 10th of the following month. Initial Self-Monitoring: A minimum of one (1) sample shall be collected each week during the first six (6) weeks of discharge and analyzed for BETX (MDNR Scan 2). In addition, at least once during this initial six week period, a sample shall be collected an analyzed for all pollutants listed in Part III. A. 1. (NEW GROUNDWATER REMEDIATION PROJECTS ONLY!) Mercury Exemption: User has been granted a contingent exemption to the mercury prohibition at designated locations per Department of Public Utilities letter. User shall provide a certification statement with its Self-Monitoring Reports that it is maintaining the Mercury Elimination/Minimization Program at the facility. Certification Alternative to TTO Monitoring: 40CFR Part 433.12 allows users to request a certification alternative to Total Toxic Organic (TTO) monitoring. The User may make the following certification statement: "Based upon my inquiry of the person or persons directly responsible for managing compliance with the pretreatment standard for Total Toxic Organics, I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to the control authority." In requesting the certification alternative, a User shall submit a solvent management plan that specifies to the satisfaction of the City: the toxic organic compounds used; the method of disposal used instead of dumping to the sanitary sewer, such as reclamation, contract hauling, or incineration; and procedures for ensuring that toxic organics do not routinely spill or leak into wastewater discharged to the sanitary sewer. Paper Mills: User shall provide certification that pentachlorophenolic- and trichlorophenolic-based blocides are not used. If these biocides are used, daily maximum discha	Not Applicable
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(29) Compliance Schedule Information:	based biocides are not used. If these biocides are used, daily maximum discharge concentration limits will be applied. Application of the discharge limits would require the
(29) Compliance Schedule Information:	Other
(29) Compliance Schedule Information:	
Not Applicable Action Required:	
Action Required:	(29) Compliance Schedule Information:
	Not Applicable
	Action Required:

Sampling requirements:

End of Pipe:

ID: JRP Sample Location: MONITORING MANHOLE EAST OF 714

EMPLOYEE PICNIC AREA, IN CURBLAUN NORTH OF POWER POLE

<u>Pollutants</u>	<u>Daily Max.</u> <u>mg/L</u>	Minimum Sampling <u>Frequency</u>	Sample Type
Cadmium, T	0.040	δ <u>γ</u>	Composite
Chromium, T	4.67	<u>5A</u>	Composite
Copper, T	2.23	<u> 5A</u>	Composite
Lead, T	0.110	5 <u>a</u>	Composite
Nickel, T	1.59	<u>SA</u>	Composite
Zinc, T	5.30	<u>2</u> V	Composite
Cyanide, T	0.250	SA	Grab
Petroleum Hydrocarbon	100	<u>\$4</u>	Grab
рН	6.2-9.8 S.U.	<u>SA</u>	Grab
Mercury, T	prohibited	<u>5A</u>	Composite
PCBs, T	prohibited		Composite

 No	free	products	may	be	discharged	at	any	time.

^{*} Total of benzene, ethylbenzene, toluene, xylene.

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١.	 d	v	٠	٠	١	u	·	C	Ü	J	٠

ID: NA	Sample Location:			
40 CFR reference	ə:	Name of category:		

Indicate appropriate limits or change if different:

Pollutant	Local Limits Daily Maximum Concentrati	Metal Finishers- PSES Maximum Concentrations (mg/L)		Metal F PS Maxi Concen (mg	-	
	on Limit (mg/L)	Daily -	Monthly Avg.	Daily	Monthly Avg.	Sample Type
Cadmium, T	0.040	0.69	0.26	0.11	0.07	composite
Chromium, T	4.67	2.77	1.71	2.77	1.71	composite
Copper, T	2.23	3.38	2.07	3.38	2.07	composite
Lead, T	0.110	0.69	0.43	0.69	0.43	composite
Nickel, T	1.59	3.98	2.38	3.98	2.38	composite
Zinc, T	5.30	2.61	1.48	2.61	1.48	composite
Cyanide, T	0.250	1.20	0.65	1.20	0.65	grab
Silver, T		0.43	0.24	0.43	0.24	composite
TTO		2.13		2.13		

Note: The most stringent limit is enforced.

SEPARATE IV. - Unless they have no possibility of violetary which -

IU Name: JAMES SELF-MONITORING PARAMETER WORKSHEET JRE JRP

EPI	<u> </u>						
Analysis	Hist	Proc	Store	Treat	Cat	Other	Require
Cadmium, T	0/9	ΥΊ	Ϋ́	2	2	N	Y
Chromium, T	0/9	Y	У	2	2	N	Y
Copper, T	2/9	у	Y \	2	N	N	Y
Lead, T	0/9	y *	y/*	2	Ν	N	Y
Nickel, T	0/9	ý	У	2	N	N	Y
Zinc, T	0/9	У	У	N	N	N	Y
Mercury, T	0/9	Y	Y	N	N	N	Y
Silver, T	0/6	Y)	4/	Ν	N	N	
Arsenic, T	0/0	N	N	. N	N	N	
Selenium, T	0/0	7	N	N	N	N	
Cyanide, I	0/4	y -}*	y >	Ν	N	N	1
Oil & Grease	1/1	y)	y5*	N-	N	N	Y .
рН	0/8	Ý	У	N	N	N	Y
MDNR Scan 1	0/1	Y ?*	y)*	N	N	N	
MDNR Scan 2 109mg/L	TOTALO/1	λ)	y5°	N	N	N	
PCB, T	BDL(1)	N	, 7	N	N	2	
* ALL MAY BE							
PRESCUT IN INKS							
THIS FACILITY	VAS PETIT	PUNED	TO B	ECOME	A MIN	IOR	
USER, STAT	1	DING.,	METAL	5 MAY	∂€ FO	UND	
IN INKS, A		CN	VO C's	T	86		
NSSOCIATED	WITH	INKS	ALSO				
							1

Completed by: 5 Le Date: 417/94 Approved by: KM Date: 2/2/194

Directions:

Hist - Show times exceeded 50% of limit in last 3 years (example: 2/9).

Proc - Is pollutant present in the process? (Y or N).

Store - Is pollutant stored on site? (Y or N).

Treat - Does IU pretreat to remove pollutant? (Y or N).

Cat - Is this location subject to categorical limits? (Y or N). Other - Is there another reason to monitor pollutant? Attach explanation.

Add parameters, especially categorical, that should be considered.

BASELINE MONITORING REPORT (BMR)

	ty of Kalamazoo - Department of Public ilities
(In accorda	nce with 40 CFR Part 403.12(b))
I. IDENTIFYING INFORM	ATION:
NAME OF FACILITY:	Georgia Pacific Corporation
FACILITY ADDRESS:	2425 King Highway
CITY:	Kalamagoo STATE M, ZIP 49001
NAME (C) OF OWNED (C)	Georgia Pacific Corporation
ADDRESS: (IF DIFFERENT FROM ABOVE)	133 Peachtree St., NE
CITY:	atlanta STATE MA ZIP 30303
II. LIST OF ENVIROMENT	AL PERMITS:
indicated above. Pleas held (what they are fo	romental permits held by or for the facility se also indicate what type of permit(s) are or), who issued the permit(s) and when the plus the expiration date(s), if applicable. if necessary)
TYPE OF PERMIT PERMIT	NUMBER ISSUED BY DATE ISSUED EXPIRES
NPDES 0023	3299 MONR

III.	DESCRIPTION	OF	OPERATIONS:
		~ ·	01777777010

,	appropriate adequate de	drawings,	sketche	s or diag	rams if	needed	attach an to provid
	Dee J	dustrial	Preti	catment	Anspa	ction	dated
<u>-</u>	Dec June 30,	July 15	1987	(wit	th att	achmen	to
				·····			
							
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	 						· · · · · · · · · · · · · · · · · · ·
							
							
В.	In the table with the ap Code(s) for attach a spoints to the	opropriate operation schematic	SIC (S (s) carr process	tandard I ied out diagram	ndustria by this indicati	l Clas facili ng all	sification ty. Pleas discharg
	OPERATION	AVE	RAGE PRO	DUCTION R	ATE		SIC CODE
FR 4	30.186						2621
(no	n-integrated	Fine Paper	,]				2621
CF	9 430.176						
1	Deink Sul	eategory)					

IV.	FI.OW	MEASUREMENT	•

Please indicate below the measured average daily and maximum daily flows of all regulated processes and all other process flows necessary for the use of the Combined Wastesteam Formula (CWF - see 40 CFR Part 403.6(e)).

PROCESS (PLEASE INDICATE IF REGULATED OR NONREGULATED) FLOW (INDICATE UNITS) FLOW CFR 430.186 18184 m 3 30,100 (3-30- CFR 430.176 (not know, is part of above total flow) V. MEASUREMENT OF POLLUTANTS: Identify all applicable Pretreatment Standards for all regulated processes detailed above. Please indicate below any results from sampling and analysis identifying the nature and concentration (or mass, where applicable) of regulated pollutants in the discharge from each regulated process. Both daily maximum and average concentrations (or mass) shall be reported and any samples collected for such analyses shall be representative of normal daily operations. Please also indicate the type of samples collect (i.e. composite, grab, etc) and the frequency of the sample collection. Attach applicable laboratory reports and use additional pages if necessary. APPLICABLE DAILY MAX. AVERAGE PRETREATMENT CONCENTRATION CONCENTRATION TYPE OF SAMPLING STANDARDS (OR MASS) (OR MASS) SAMPLE FREQUENCY Age attached A sampling shoulds			
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CITY OF KALAMAZOO WASTEWATER SERVICE

ADMINISTRATIVE ORDER

ATTACHMENT "A": DISCHARGE LIMITATIONS

User Name:

GEORGIA PACIFIC CORP.

Address:

2425 KING HIGHWAY

KALAMAZOO, MI 49001

Contact Person:
Date of Issue:

ALAN CAMPBELL

January 31, 1989

I. Local Discharge "End-of-Pipe" Limitations:

These limitations apply to all wastewater discharge(s) from your facility to the sanitary sewer. Please refer to Attachment C for the specific "end-of-pipe" sample location(s), and to the City of Kalamazoo Sewer Use Ordinance, Chapter 28, Section 28-10 (or applicable ordinance of the municipality where the facility is located) for general prohibited discharge limitations.

		DAILY MAXIMUM CONCENTRATION LIMIT
POLLUTANT		MILLIGRAMS PER LITER (mg/L)
Cadmium	(Cd)	0.040
Chromium	(Cr)	4.67
Copper	(Cu)	2.23
Lead	(Pb)	0.110
Nickel	(Ni)	1.59
Zinc	(Zn)	5.30
Total Cyanide	(CN)	0.250
Mercury	(Hg)	0.250

II. Process-specific Discharge Limitations:

Pretreatment standards for Pulp, Paper, and Paperboard Category; Non-integrated Fine Papers Subcategory and Deink Subcategory (40CFR Parts 430.186 and 430.176).

User shall provide certification that pentachlorophenolic- and trichlorophenolic-based biocides are not used. If these biocides are used, daily maximum discharge concentration limits will be applied. Application of the discharge limits would require the submission of detailed production and operation data.

parameter	VALUE -	- Units	Sample Date	Sample Type	Sample Time
AMMONIA-NITROGEN	1.550 1.840	mg/l mg/l mg/l mg/l	04/04/89 04/05/89 04/06/89	24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP	11:30 AM 11:20 AM 11:20 AM
Mean	1.738				
parameter	VALUE -	- Units		Sample Type	
BOD	283.000 245.000 340.000 230.000 202.000 190.000 232.000 100.000 320.000 320.000 352.000 352.000 278.000 278.000 208.000 215.000 215.000 225.000 33.000 0.000	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	01/05/88 01/06/88 01/07/88 01/07/88 01/08/88 01/17/89 01/19/89 01/19/89 04/05/89 04/05/89 04/05/88 04/06/88 04/06/88 04/06/88 04/07/89 04/06/88 04/07/89 04/08/88 07/18/89 07/19/88 07/19/88 07/20/88 07/20/88	24 HR COMP	11:30 AM 11:00 AM 11:40 AM 11:00 AM 10:45 AM 10:50 AM 10:40 AM 11:10 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM
Mean	251.000				
parameter	VALUE -	- Units	Sample Date	Sample Type	Sample Time
CADMIUM indicates test re	0.360 0.340 0.100 0.000 0.190 0.610 0.150 0.210	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	01/05/88 01/06/88 01/07/88 01/08/88 01/17/89 01/18/89 01/19/89 01/20/89 04/04/89 04/05/88 04/05/88 04/06/89 04/06/88 04/06/88	24 HR COMP	11:30 AM 11:00 AM 11:40 AM 11:00 AM 10:45 AM 10:50 AM 11:00 AM 11:10 AM 11:10 AM 11:30 AM 11:20 AM 11:20 AM

parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
Mean	0.470 0.210 0.000 0.000 0.000 0.000 0.150 0.000 0.160 0.460	* * * * *	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	04/07/88 04/08/88 04/08/88 07/18/89 07/19/88 07/20/89 07/20/88 07/21/89 07/21/88 07/22/88 10/05/88	24 HR COMP	11:15 AM 11:00 AM 11:00 AM 11:15 AM 10:45 AM 11:20 AM 10:45 AM 11:05 AM 11:10 AM 10:45 AM
parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
CHLOROFORM	9.400 14.000 26.000 14.000	_	•	04/08/88 07/18/89 07/21/88 10/05/88	GRAB GRAB GRAB 24 HR COMP	08:45 AM 11:00 AM 11:10 AM 10:40 AM
parameter	VALUE	-	Units	Sample Date	Sample Type	Sample Time
CHROMIUM	11.000 8.100 9.500 7.800 0.0000 0.00	**** **** *** ***	ug/l ug/l ug/l ug/l	01/05/88 01/06/88 01/07/88 01/07/88 01/08/88 01/17/89 01/18/89 01/19/89 04/05/89 04/05/88 04/05/88 04/05/88 04/06/88 04/06/88 04/07/89 04/07/88 04/07/88 04/07/88 04/07/89 07/19/88 07/19/88 07/19/88 07/19/88 07/20/88 07/21/88 07/21/88 07/21/88	24 HR COMP	11:30 AM 11:00 AM 11:40 AM 11:40 AM 10:45 AM 10:50 AM 10:50 AM 11:00 AM 11:10 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:15 AM 11:20 AM 11:15 AM 11:15 AM 11:10 AM 11:10 AM

Mean 2.476 indicates test results below detection limits

parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
COD	564.000 431.000 618.000 533.000 475.000 381.000 423.000 430.000 463.000 366.000 526.000 420.000 470.000 368.000 674.000 469.000 399.000 491.000 297.000 394.000		mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	01/05/88 01/06/88 01/07/88 01/07/88 01/17/89 01/18/89 01/19/89 01/20/89 04/05/89 04/05/88 04/05/88 04/06/88 04/06/88 04/07/89 04/07/88 04/07/88 04/07/88 04/07/89 07/19/89 07/19/89 07/19/89	24 HR COMP	11:30 AM 11:00 AM 11:40 AM 10:45 AM 10:50 AM 10:50 AM 11:00 AM 11:10 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM
			Tīni ba	Sample	Cample Mane	Sample Time
Parameter	VALUE 0.000 0.000 23.000 29.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	_ * * * * * * * * * *	-	Date 01/17/89 01/18/89 01/19/89 01/20/89 04/04/89 04/05/89 04/05/89 04/07/89 07/18/89 07/19/89 07/20/89		10:45 AM 10:50 AM 11:00 AM 10:40 AM 11:10 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM
parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
CYANIDES indicates test result	31.800 32.500 40.900 61.900 26.500 21.000 21.900 14.000 22.000 21.400 99.700	- ion	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	01/05/88 01/06/88 01/07/88 01/08/88 01/17/89 01/18/89 01/19/89 01/20/89 04/04/89 04/05/89	24 HR COMP 6RAB 6RAB 6RAB 24 HR COMP	11:30 AM 11:00 AM 11:40 AM 11:00 AM 10:45 AM 10:50 AM 11:00 AM 11:10 AM 11:10 AM

parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
	24.800 78.700 24.400 81.600 74.000 43.800 79.600 43.900 58.400 61.500 33.700 56.000 49.600		ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	04/06/89	24 HR COMP GRAB 24 HR COMP 24 HR COMP GRAB GRAB 24 HR COMP GRAB 24 HR COMP GRAB 24 HR COMP	11:20 AM 11:30 AM 11:20 AM 11:15 AM 11:00 AM 11:00 AM 11:00 AM 11:15 AM 10:45 AM 11:20 AM 11:20 AM 11:05 AM 11:05 AM
Mean parameter	45.983	_	Units		Sample Type	Sample Time
		-				10:40 AM
DICHLOROBROMOMETHANE			ug/I	10/03/00	24 HR COMP	IV:4V AM
Mean	1.700					
parameter	VALUE	<u>-</u>	Units	Sample Date	Sample Type	Sample Time
LEAD	3.100 3.000 2.500 4.000 4.000 3.600 3.500 3.900 0.000 0.000		ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	01/18/89 01/19/89 01/20/89 04/04/89 04/05/89 04/06/89	24 HR COMP	10:45 AM 10:50 AM 11:00 AM 10:40 AM 11:10 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:00 AM 11:15 AM 11:15 AM
Mean	2.883			_		
parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
MERCURY	0.000 0.000 0.000 0.000 0.000 0.000 0.000	- * * * * * * * * * * * * * * * * * * *	ug/l ug/l	04/04/89 04/05/89 04/06/89 04/07/89 07/18/89 07/19/89 07/20/89 07/21/89	24 HR COMP	11:10 AM 11:30 AM 11:20 AM 11:20 AM 11:00 AM 11:15 AM 11:15 AM 11:20 AM
Mean indicates test result	0.000 s below detec	tion	limits			

parameter	VALUE	<u>-</u>	Units	Sample Date	Sample Type	Sample Time
NICKEL	0.000 0.000 0.000 0.000 11.000 7.300 6.500 9.500 0.000 0.000	_ * * * * * * *	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	01/17/89 01/18/89 01/19/89 01/20/89 04/04/89 04/05/89 04/06/89 04/07/89 07/18/89 07/19/89 07/20/89 07/21/89	24 HR COMP	10:45 AM 10:50 AM 11:00 AM 10:40 AM 11:10 AM 11:20 AM 11:20 AM 11:20 AM 11:00 AM 11:05 AM
parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
OIL & GREASE	383.000 1590.000 8.760 9.180 11.400 17.600 6.630 8.440 5.000 3.000	_	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	01/05/88 01/07/88 01/17/89 01/19/89 04/04/89 04/05/88 04/07/88 07/18/89 07/19/88 07/21/88 10/04/88	GRAB GRAB 24 HR COMP 24 HR COMP GRAB GRAB GRAB GRAB GRAB GRAB GRAB	11:30 AM 11:40 AM 10:45 AM 11:00 AM 11:10 AM 11:15 AM 11:15 AM 11:10 AM 10:45 AM 10:45 AM
Mean	186.001			Gamm1 -		Campla
parameter	VALUE	-	Units	Sample Date	Sample Type	Sample Time
PCB'S Mean	0.000 0.000	*	ug/l	Ø4/25/88	GRAB	10:30 AM
parameter	VALUE	-	Units	Sample Date	Sample Type	Sample Time
<pre>indicates test result</pre>	0.000 0.000 0.000 1.300 0.750 0.620 0.850 0.000 0.000 0.000	* * * * * * * * * * * * * * * * * * *	ug/l ug/l ug/l ug/l	01/05/88 01/06/88 01/07/88 01/08/88 01/17/89 01/18/89 01/19/89 01/20/89 04/05/88 04/06/88 04/07/88 04/08/88 04/08/88	24 HR COMP	11:30 AM 11:00 AM 11:40 AM 11:00 AM 10:45 AM 10:50 AM 11:00 AM 11:00 AM 11:30 AM 11:15 AM 11:15 AM 11:00 AM

parameter	VALUE	-	Units	Sample Date	Sample Type	Sample Time
	0.000 1.800 0.000 0.000 0.000 0.000 0.000	* * * * * *	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	07/19/89 07/19/88 07/20/89 07/20/88 07/21/89 07/21/88 07/22/88 10/05/88	24 HR COMP	11:15 AM 10:45 AM 11:20 AM 10:45 AM 11:05 AM 11:10 AM 10:45 AM 10:40 AM
Mean	0.253					
parameter	VALUE	-	Units	Sample Date	Sample Type	Sample Time
TOLUENE	6.000 3.400 9.000 6.300	-	ug/l ug/l ug/l	04/08/88 07/18/89 07/21/88 10/05/88	GRAB GRAB GRAB 24 HR COMP	08:45 AM 11:00 AM 11:10 AM 10:40 AM
parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
TOTAL PHOS	0.580 0.440 0.570 0.000 0.660 0.680 0.780	*	mg/l mg/l mg/l	04/04/89 04/05/89 04/06/89 07/18/89 07/19/89 07/20/89 07/21/89	24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP	11:10 AM 11:30 AM 11:20 AM 11:00 AM 11:15 AM 11:15 AM 11:20 AM 11:05 AM
Mean	0.530					
parameter	VALUE	<u>-</u>	Units	Sample Date	Sample Type	Sample Time
TOTAL SUS. SOLIDS	184.000 256.000 112.000 64.000 48.000 36.000 50.000 130.000 78.000 110.000 61.000 48.000 37.000 34.000 79.000 12.000 83.000 48.000 83.000 83.000 83.000	ion	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	01/05/88 01/06/88 01/07/88 01/08/88 01/17/89 01/18/89 01/19/89 01/20/89 04/05/89 04/05/88 04/05/88 04/06/88 04/06/88 04/07/89 04/07/88 04/07/88 04/08/88 07/18/89 07/19/89	24 HR COMP	11:30 AM 11:00 AM 11:40 AM 11:40 AM 10:45 AM 10:50 AM 10:50 AM 11:00 AM 11:10 AM 11:30 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM

indicates test results below detection limits

parameter	VALUE	-	Units	Sample Date	Sample Type	Sample Time
	40.000 10.000 26.000 68.000 28.000 160.000	-	mg/l mg/l mg/l mg/l mg/l mg/l	07/19/88 07/20/89 07/20/88 07/21/89 07/21/88 10/04/88	24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP 24 HR COMP	10:45 AM 11:20 AM 10:45 AM 11:05 AM 11:10 AM
Mean	75.083					
parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
VOLATILE SUS. SOLIDS	46.000 24.000 31.000 52.000 22.000 40.000 32.000 34.000 63.000 25.000 30.000 24.000 42.000 18.000 80.000		mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	01/17/89 01/18/89 01/19/89 01/20/89 04/04/89 04/05/89 04/06/89 04/07/89 07/18/89 07/19/89 07/19/88 07/20/89 07/20/88 07/21/88 07/21/88 10/04/88	24 HR COMP	10:45 AM 10:50 AM 11:00 AM 10:40 AM 11:10 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:20 AM 11:15 AM 10:45 AM 11:20 AM 11:20 AM
Mean	35.562		Units	Sample	Sample Mune	Sample Time
parameterXYLENE Mean	VALUE 0.100 1.800 1.100 2.100 	_	ug/l ug/l ug/l ug/l	Date 01/18/89 04/08/88 07/18/89 10/05/88	Sample Type 24 HR COMP GRAB GRAB 24 HR COMP	10:50 AM 08:45 AM 11:00 AM 10:40 AM
parameter	VALUE	_	Units	Sample Date	Sample Type	Sample Time
ZINC	63.000 139.000 165.000 321.000 168.000 375.000 270.000 185.000 82.000 58.000 202.000	_	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	01/05/88 01/06/88 01/07/88 01/08/88 01/17/89 01/18/89 01/19/89 01/20/89 04/04/89 04/05/89	24 HR COMP	11:30 AM 11:00 AM 11:40 AM 11:00 AM 10:45 AM 10:50 AM 11:00 AM 11:10 AM 11:10 AM

parameter	VALUE -	- Units	Sample Date	Sample Type	Sample Time
	30.000	ug/l	04/06/89	24 HR COMP	11:20 AM
	278.000	ug/l	04/06/88	24 HR COMP	11:30 AM
	28.000	ug/l	04/07/89	24 HR COMP	11:20 AM
	143.000	ug/l	04/07/88	24 HR COMP	11:15 AM
	188.000	ug/1	04/08/88	24 HR COMP	11:00 AM
	39.000	ug/l	07/18/89	24 HR COMP	11:00 AM
	18.000	ug/l	07/19/89	24 HR COMP	11:15 AM
	90.000	ug/l	07/19/88	24 HR COMP	10:45 AM
	14.000	ug/l	07/20/89	24 HR COMP	11:20 AM
	89.000	ug/l	07/20/88	24 HR COMP	10:45 AM
	75.000	ug/l	07/21/89	24 HR COMP	11:05 AM
	20.000	ug/l	07/21/88	24 HR COMP	11:10 AM
	79.000	ug/l	07/22/88	24 HR COMP	10:45 AM
	122.000	ug/l	10/05/88	24 HR COMP	10:40 AM
Mean	129.640				
		• .	Sample		Sample
parameter	VALUE -	- Units	Date 	Sample Type	Time
pН	6.800	s.U.	01/05/88	GRAB	11:30 AM
	9.700	s.U.	01/06/88	GRAB	11:00 AM
	8.200	s.u.	01/07/88	GRAB	11:40 AM
	6.800	S.U.	01/08/88	GRAB	11:00 AM
	8.300	s.u.	01/17/89	GRAB	10:45 AM
	7.400	s.U.	01/18/89	GRAB	10:50 AM
	6.900	s.u.	01/19/89	GRAB	11:00 AM
	6.900	S.U.	01/20/89	GRAB	10:40 AM
	5.900	S.U.	04/04/89	GRAB	11:10 AM 11:30 AM
	6.800 9.900	S.U. S.U.	04/05/89 04/05/88	GRAB GRAB	11:00 AM
	7.000	S.U.	04/05/89	GRAB	11:20 AM
	6.900	S.U.	04/06/88	GRAB	11:30 AM
	7.000	S.U.	04/07/89	GRAB	11:20 AM
	6.700	S.U.	04/07/88	GRAB	11:15 AM
	7.000	s.u.	04/08/88	GRAB	11:00 AM
	7.200	s.U.	07/18/89	GRAB	11:00 AM
	6.800	S.U.	07/19/89	GRAB	11:15 AM
	6.700	s.U.	07/19/88	GRAB	10:45 AM
	6.800	s.u.	07/20/89	GRAB	11:20 AM
	6.700	s.u.	07/20/88	GRAB	10:45 AM
	7.300	s.u.	07/21/89	GRAB	11:05 AM
	6.600	s.u.	07/21/88	GRAB	11:10 AM
	6.800	s.U.	07/22/88	GRAB	10:45 AM
	6.300	s.u.	10/05/88	GRAB	10:40 AM
Mean	7.176				

[:] indicates test results below detection limits

VI. CERTIFICATION:

This aspect of the submittal involves two (2) portions:

- 1) Qualified Professional Certification; and,
- 2) Authorized Representative Certification.

Based upon the certification provided (i.e. compliance or noncompliance), submission of a proposed compliance schedule may be necessary. Please review 40 CFR Part 403.12 (b) (6) & (7) plus 403.12 (i) and (k) carefully prior to completing and signing in any designated areas below. Please note that there are strict requirements governing who is a Qualified Professional and Authorized Representative. A copy of the pertinent regulations is attached for reference.

A. Qualified Professional Certification:

_			000mmm=	~~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
1	('OMP)	I ANCE:	CERTIFI	CATHON

Title

I am personally familiar with the above-referenced to wastewaters discharged from hereby certify	facility and with the
(write in applicable Pretreat on the line above) are being me	
Qualified Professional	Representative Firm

previous portion of form completed by John Ward Industrial Waste Technician - KWRP - 9-22-85

Date

BMR - PAGE 5

VI. CERTIFICATION (continued):

2	NONCOMPLIANCE	CERTIFICATION
/. <u>~</u>	NONCOMEDIANCE	CERTIFICATION

۷.	NONCOMPLIANCE CERTIFICATION	
	performed at the above-r	er with the operation(s) referenced facility and with from these operation(s). I that
•	on the line above) are no basis. A compliance so compliance date no later	reatment Standards reference to being met on a consistent thedule is enclosed with a than the date specified in the standard or upon to the sanitary sewer.
	Qualified Professional	Representative Firm
	Title	Date
B. Au	athorized Representative Certif	ication:
	<pre>accompanying professional my inquiry of those responsible for obtaining</pre>	ove-referenced document and certification. Based upon individuals immediately by the information reported the submitted information is te.
	Signature	
	Title	
	Date	, , ,

VII. COMPLIANCE SCHEDULE:

Based upon the reply to the Certification secion above, please complete the proposed compliance schedule detailed below as required. Please note that no more that nine (9) months can elapse between dates within the proposed compliance schedule and that written updates must be submitted to the Control Authority within fourteen (14) days of each date in the compliance schedule.

PROPOSED COMPLIANCE SCHEDULE

Compliance Task	Date	of	Completion
Process flow and source data verification			
Selection of alternatives and, if necessary, pretreatment studies and enginneering design submitted to Control Authority			
Construction and, or, implementation of selected alternatives, if necessary.		<u> </u>	
Complete Construction and, or, implementation of selected alternatives, if necessary.			
Final Compliance Date			



Significant Industrial User
Annual Inspection Form
Year:

Revised: 02/20/03

acility Nama			
site Address:			
Street:			
City: Mailing Address:	State:	Zip:	
Street:			
City:	State:	Zip:	
gnatory Name:			
Title:			
Phone:	Fax:		·
E – Mail Address: Mailing Address:			
Street:			
City:	State:	Zip:	
ntact Name:			
Title:			
Phone:	Fax:		
E – Mail Address:	11es @ Medes stryk	ercorp. Com	
Street:			
City:	State:	Zip:	

Name [,]		If yes, please complete the section below:
Emergency Phone:		Pager:
Additional Details:		
on B – General Busin		Carille, landed and into what interpretand and it disclar
m what jurisdiction (city, township, etc.) is the	facility located and into what interceptor does it dischar
Jurisdiction		
List all applicable Sta	andord Industrial Classifier	
	alitata matasina Ciassino	ation codes by number and description. Corresponding
numbers and descrip	tions should be listed also.	
numbers and descrip	tions should be listed also.	
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Shifts Per							
Day							
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Shift Start							
& End							
Times			<u> </u>				
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					·		
#Employees Per Shift	}						
Per Sillit							
							 _
Is any of th	e information	contained on	this form confi	idential?	Yes	□ No	
Note specif	ic confidentia	ıl information	i:				
Note specif	ic confidentia	al information					
Note specif	ic confidentia	al information	:				
Note specif	ic confidentia	al information					
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Inspection Sampling Violation Enforcement	al Industrial	Pretreatment	nt Information	rs)	Type		
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8.	Check all criteria that define this facility as a Significant Industrial User ☐ Categorical Process ☐ Process discharge >25,000 gpd ☐ Process discharge >5 % of the average dry weather hydraulic capacity of the KWRP ☐ Reasonable potential for adversely affecting KWRP's operation or a pretreatment standard or requirement
9.	 In The KWRP Annual IPP Report, this facility is classified as: □ -C- Categorical Process □ -S1- IU discharging >25,000 gpd process wastewater □ -S2- IU discharging process wastewater >5% of the average dry weather hydraulic capacity of KWRP □ -S3- Facility having reasonable potential for adversely affecting the KWRP's operation or a pretreatment standard or requirement
10.	List all Categorical Processes that apply to this facility along with promulgation dates. Provide CFR part number, subpart letter and descriptions for each. Example: Part 433 – Metal Finishing Point Source Category, Subpart A – Metal Finishing Subcategory.
	CFR Promulgated Subpart Description Part Date CFR Subpart Description
11.	 a. Discharge into the sanitary sewer from the current business activity began on what date? b. The original building was constructed in what year? c. The original building was connected to sanitary sewer in what year? d. Additional connections to the sanitary sewer were made in what year?
12	If subject to 40 CFR categorical limits, this facility is considered: □ Existing Source □ New Source If this facility is classified as a New Source then specify the date to be used:
13.	The following categorical pretreatment standard(s) apply to this facility. Example 433.17 Pretreatment Standards for New Sources. a. b. c. d.

14.	This facility is subject to: (check all that apply) Combined Wastestream Formula Total Toxic Organic (TTO) Limits Mass Based Limits Concentration Based Limits Production Based Limits None Apply
15.	The following plans/programs are in effect and were submitted on these dates: (check all that apply) Date Toxic Organic Management Plan (TOMP)
	☐ Mercury Elimination & Minimization Program (MEMP) ☐ Polychlorinated Biphenyls (PCB) Plan ☐ None Apply
16.	The following forms have been completed and were submitted most recently on these dates. (check all that apply) Date
	□ Baseline Monitoring Report □ 90-Day Compliance Report □ Individual Control Document (ICD) Application Part I □ Individual Control Document (ICD) Application Part II □ None Apply
17.	This facility has the following reporting requirements: (check all that apply) RCRA (Resource Conservation & Recovery Act) Small Quantity Generator Large Quantity Generator Generator's US EPA ID Number: What is the date of the last MDEQ RCRA inspection at this facility?
	□ SARA (Superfund Amendments & Reauthorization Act) □ Title III □ Title III
	☐ MDEQ Annual Wastewater Report (AWR) ☐ Check here if this facility files only the Abbreviated Annual Wastewater Report
	□ None Apply
18.	This facility has the following environmental permits: (check all that apply) Storm Water Permit Air Quality Permit NPDES Permit Other (specify): No Permits

19.	This facility is regulated by the following Plans/Programs:	(check all that apply)
15.	☐ Spill Prevention Control & Countermeasures Pro	
	Date Last Revised:	3()
	☐ Pollution Incident Prevention Plan (PIPP) per M Date Last Revised:	
	Slug Discharge Prevention Plan addressing disch	 arges that could cause potential problems to the POTW,
	including slug loadings per 40 CFR Part 403.12	2 (f) & specific prohibitions in 40 CFR 403.5(b)(1-8).
	Date Last Submitted: □ None Apply	
20.	a. Does this facility have an NRC license to use and	or store radioactive materials on site?
	☐ Yes ☐ No	
	b. Does this facility have an MDEQ license to use a Yes No	and/or store radioactive materials on site?
	c. Provide a copy of NRC and/or MDEQ license(s)	as an attachment, if not already in file.
	See Attachment	•
21.	This facility was issued: (check all that apply)	
	☐ ICD Effective Date:	Expiration Date:
	pH Exemption Date:	
	☐ Compliance Schedule Date:	Final Compliance Date:
	☐ None Apply	
Secti	on D – Water Balance Information:	
23.	Sources of In-Coming Water. (check all that apply)	
	☐ Surface Water – Source of surface water:	
	☐ Municipal Utility – Name of municipality:	
	Other:	
	6	

24. Complete the following table for the volumes of incoming water from each source above.

Code #	Source	Daily Avg., gpd	Daily Max.,	Annual Total Cubic Meters	Comments
1	Surface Water	BP−	197 TO A COURT OF THE PROPERTY		
2	Private Well				
. 3	Municipality				
4	Other :				
	Totals				

25. Complete the following table, using the code numbers from table above, to identify the water source for each designated water use listed. Place as asterisk next to the code if water for a specific use is metered and two asterisks if it is a deduct meter. In the columns on the far right, provide an estimate of the incoming water for

designated each use is discharged into the sanitary sewer.

acsigi	ialed each use is discharged	i mio nio samai y si	C VV CI.	Land was seen as a second	Les — aca
*Code#	Use	Daily, gpd	Annually Cubic Meters	To Sewer Daily, gpd	To Sewer Annually Cubic Meters
	Domestic/Potable				
	Product 🕬 💮				
	Irrigation				
	Fire				
	Demineralizer Feed				
	Boiler Feed				
1.41	Cooling Tower Feed				
	NCCW		,		
	CCW				
	Air Scrubber(s)				
	Unregulated Process 1				1
	Unregulated Process 2				
	Unregulated Process 3				
	Regulated Process 1				
2	Regulated Process 2				
	Regulated Process 3				
100	Regulated Process 4				
	Regulated Process 5				
	Regulated Process 6				
	Other 1				
	Other 2				
W 1 (1) (1)	Other 3				
4.6	Other 4				
	Totals				

6.		w measured at the end-of-proces	/ice:		
7.	Is flo	w measured at the end-of-pipe es No Type of dev Date of last	rice:	ion?	
Sect	ion E -	Wastewater Pretreatment Info	ormation:		
3.	Is wa	stewater pretreatment equipme	ent used at this fac	cility?	□ No
).		(s) of pretreatment process(es) Continuous PH Neutralization Flocculation Distillation I on Exchange Oxidation/Reduction Other	Satch Satch Solution	☐ Screening ☐ Filtration ☐ Stripping ☐ Incineration ying	☐ Sedimentation ☐ Evaporation ☐ Precipitation ☐ Sludge Thickening ☐ None Apply
l.	If yes Physi Sludg	lge generated due to treatment is it classified as:	azardous A Noi	n-hazardous th-monife	
		e Transporter Name (if applica e Transporter's US EPA ID Ni			
	Descr	ption of pretreatment equipme	ent and process(es): 	
				· · · · · · · · · · · · · · · · · · ·	
	T	of wastestraams processed the		nent equipment: (check	* * * * *
	1 ypes	Dilute wastestreams:			
		•			
	à	Dilute wastestreams:			
		Dilute wastestreams:Unregulated wastestreams:			
		Dilute wastestreams:Unregulated wastestreams:			

	Operation of the pretreatment system: a. Staffing □ Full-Time Operator □ Part-Time Operator □ Other (specify)
	Notes regarding staffing:
	b. Hours of Operation
	c. Design Capacity:
,	d. Notes regarding design capacity:
(e. Were all units of the treatment system in service?
j	C. Operational logs available for review: ☐ Yes ☐ No Notes regarding log review:
F	Pretreatment system evaluation. a. Pretreatment system found in satisfactory operation: Notes regarding satisfactory operation:
1	o. Pretreatment system adequate for current wastestreams:
	As an attachment, provide a diagram of the wastewater treatment system specifying processes, direction of flow, sampling points, potential bypass points, and discharge points. See Attachment:
	-Chemical & Waste Storage Areas Information
	cre is on site storage of: (check all that apply) Chemicals
	e containers clearly labeled?
۸ سر	any chemicals considered Critical Materials?
Alt	Bulk chemical - Jack Room - sumarized

	OT Description of Waste	Transporter/Des	ignated Facility	US EPA ID# . The state of the s
				
<u> </u>	· · · · · · · · · · · · · · · · · · ·			
a.			-	niform Hazardous Waste See Attachment
b.	As an attachment, provide highlighting the Critical containers. Also, provide locations of chemicals an outfalls to private or publications.	Materials. Include a sketch of storaged wastes within the	de sizes, types a e areas. The sket	and quantities of th should include
	See Attachment		achment	
	 			
	G 'II D	4 I C		
	Spill Prevention/Containm		,	
Are the	re waste streams that discha	rge directly to the s	anitary sewer wit	hout pretreatment?
3 .T	☐ Yes ☐ No			
Notes	s regarding direct connection	is to the sanitary se	wer	
	6 6	is to the stateting so		
	answer is yes, are these was			
If the	answer is yes, are these was ☐ Yes ☐ No	stewaters adequately	y protected from s	spillage?
If the	answer is yes, are these was ☐ Yes ☐ No	stewaters adequately	y protected from s	
If the	answer is yes, are these was ☐ Yes ☐ No	stewaters adequately	y protected from s	spillage?
If the	answer is yes, are these was ☐ Yes ☐ No	stewaters adequately	y protected from s	spillage?
If the Notes	answer is yes, are these was Yes No regarding adequate protect	stewaters adequately	y protected from setions:	spillage?
If the Notes	answer is yes, are these was a Yes No regarding adequate protect retreated waste streams adequate to handle?	stewaters adequately	y protected from setions:	spillage?
If the Notes Are pridesign	answer is yes, are these was regarding adequate protect retreated waste streams adequed to handle?	stewaters adequately ion of direct connec	y protected from setions:	spillage? terials pretreatment equipment is
If the Notes Are pridesign	answer is yes, are these was regarding adequate protect retreated waste streams adequed to handle?	stewaters adequately ion of direct connect quately protected from of the pretreatment	y protected from setions:omega=	spillage?
If the Notes Are pridesign	answer is yes, are these was regarding adequate protect retreated waste streams adequed to handle?	stewaters adequately ion of direct connect quately protected from of the pretreatment	y protected from setions:omega=	spillage? terials pretreatment equipment is
If the Notes Are pridesign	answer is yes, are these was regarding adequate protect retreated waste streams adequed to handle?	stewaters adequately ion of direct connect quately protected from of the pretreatment	y protected from setions:omega=	spillage? terials pretreatment equipment is
If the Notes Are pridesign Notes Is second	answer is yes, are these was a Yes No regarding adequate protect retreated waste streams adequate to handle? Yes No regarding adequate protections adequate protection on the stream of	ion of direct connection of the pretreatmaction adequate?	y protected from setions: om spillage of ma	spillage? terials pretreatment equipment is
If the Notes Are pridesign Notes Is second	answer is yes, are these was a Yes No regarding adequate protect retreated waste streams adequate to handle? Yes No regarding adequate protections adequate protection on the stream of	ion of direct connection of the pretreatmaction adequate?	y protected from setions: om spillage of ma	spillage? terials pretreatment equipment is
If the Notes Are pridesign Notes Is second	answer is yes, are these was a Yes No regarding adequate protect retreated waste streams adequate to handle? Yes No regarding adequate protections adequate protection on the stream of	ion of direct connection of the pretreatmaction adequate?	y protected from setions: om spillage of ma	spillage? terials pretreatment equipment is
If the Notes Are pridesign Notes Is second	answer is yes, are these was a Yes No regarding adequate protect retreated waste streams adequate to handle? Yes No regarding adequate protections adequate protection on the stream of	ion of direct connection of the pretreatmaction adequate?	y protected from setions: om spillage of ma	spillage? terials pretreatment equipment is
If the Notes Are pridesign Notes Is second	answer is yes, are these was a Yes No regarding adequate protect retreated waste streams adequate to handle? Yes No regarding adequate protections adequate protection on the stream of	ion of direct connection of the pretreatmaction adequate?	y protected from setions: om spillage of ma	spillage? terials pretreatment equipment is
If the Notes Are pridesign Notes Is second	answer is yes, are these was a Yes No regarding adequate protect retreated waste streams adequate to handle? Yes No regarding adequate protections adequate protection on the stream of	ion of direct connection of the pretreatmaction adequate?	y protected from setions: om spillage of ma	spillage? terials pretreatment equipment is

41.	Briefly explain response procedures used for spills into the sanitary sewer:	
42.	Has this facility been responsible for any slug discharges or spills since the last inspection date? ☐ Yes ☐ No If yes then provide details below, including dates.	
	on H – Monitoring Information	
43.	Complete this table for all active monitoring locations, listing CFR #'s where applicable: Sample Code CFR # Description of Sampling Location	s *
44	re accurate sampling cards on file for each monitoring location in the table above? ☐ Yes ☐ No	
45.	re any of the active monitoring locations in the table above under review for retirement? Yes No	
	rovide details regarding monitoring locations under review for retirement:	-
46.	re any outfalls from this facility not in the table above?	
	ovide details regarding unmonitored outfalls:	

P>	Sample ?	Cd	Cr	Cu	Pb	Ni	Zn.	Ag	Hg	As	TPH	CŇ	PCBs	pH	Othe
	Code	*			18 "	3 -				1 4.2				-	
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-					+					-					
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	Semi-An	ınual S	Self-M	onitori	ng is co	nducte	d by:		SIU	i	□ KWI	RР			
	Does this	s facili	ity Self	f-Moni	itor for p	oarame	ters othe	er than	those ir	1 the ab	ove tabl	le? □	Yes	□ No	ı
	List the c	other p	arame	ters thi	is facilit	y self-r	nonitors	3:							
	Note why	y this	facility	/ self-n	nonitors	for oth	ıer paraı	neters_							
					•										
	Does this	s facili	ty Self	f-Moni	tor more	e freque	ently tha	ın semi	- annua	illy? [⊐ Yes		□ No		
	How freq	ment]·	v đoes	this far	cility sel	lf_moni	itor? :								
	11011 1107		/ uccc	шо то-											
	Note why	/ this f	facility	self-m	onitors	more f	requent	ly than	semi-a	nnually	, 				
	Do Self-N for this fa local limit	icility its, ne	as of th	his insp	pection on proces	date? (Conside	er samp	ling loo	cations,	, types o	•			~
	Notes reg	;arding	ς Self-l	Monitc	oring req	juireme	ents:								
	Self-Mon a. Fulfille b. Met cri	d requ teria s	iiremer specifie	nts speced in 40	cified in O CFR P	i ICD: Part 136	or ano	Yes ther app	proved				□ No		
	Tioles leg														
	Self-Moni	_	_	icted si	ince the	last ins	spection	resulte	d in:						
	Self-Moni	olation	ıs				-								
	Self-Moni	olation orical	ns Limits	: Violat		(Please	specify	violatio	on)	it					

58	If self-monitoring violation(Location Code	(s) occurred, comple Parameter	ete the following: Date		
					
					
59.	Self-Monitoring samples are Name of Laboratory:				
	Address:City, State & Zip:			· · · · · · · · · · · · · · · · · · ·	
	Contact Person:		Phone:		
60	Compliance monitoring since No Violations Categorical Limits Violation Monthly Avg Local Limits Violation(s	tion(s) (Please spec g. Limit]	ify violation)		
61.	If violation(s) occurred, com Location Code	plete the following: Parameter	: Date		
					
Sect	ion I – Billing Information				
62.	This facility's wastewater fee		; Quantity/Quality b	illing procedures:	
	If yes, then complete the followa. Sampling is conducted b. Sampling frequency: Other:	d by:	aly 🗖 Quarterly 🗖	Semi-Annually	-
63.	If this facility has its Q/Q num			e for the most recer	nt years:
	Year Flow, 1	n3 CB	OD, mg/J	TSS, mg/t	NH3-N, mg/I
	1	1	1		1

	ere any billing concerns that need to be addressed?	
	ther I tems be the physical characteristics of the wastestream at the end-of-pipe location:	
ow is	ne facility generally maintained?	
Attacl		
	nents:	
B. C. D.		
В.		
B. C. D. E. F. G. H. I.		
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	on K-Inspection Summary	Information	
	Inspections were conducted	l as follows:	
	Date(s):	Time:	
	Date(s):	Time:	
	Date(s):	Time:	
	Date(s):		
	The following personnel rep	presenting the facility were	-
	Name		Title
	The following personnel rep	oresenting the City of Kalar	nzoo were present:
	Name		Title
•			
) () ()	The following worksheets w Water balance for the pre Pre-inspection check list Post-inspection check list Other: Other: Other:	evious calendar year (submit (submit with the inspection t (submit with the inspection	n report) n report)
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() () ()	☐ Water balance for the pre ☐ Pre-inspection check list ☐ Post-inspection check list ☐ Other: ☐ Other	rovides an accurate represers as completed following polars completed follo	it with the inspection report) a report) in report in

Handad in 9/2/99

Reviewed by: ____

BOD

Date Completed :

9-3-99

City of Kalamazoo Industrial User Inspection Form

Background Information:

EPA-Allied Paper

Mailing Address:

77 North Jackson Blvd., SE-5J Chicago IL 60604 Site Address:

Allied Dewatering Lagoons Kalamazoo MI 49001

Contact Person:

Mr. Brad Stimple

Phone: (312) 886-0406

Title:

On-Scene Coordinator/Environmental

Scientist

Fax: (312) 353-9176

Inspection Information:

inspector: Steve Rochow, IPP inspector

Type of Inspection:

Scheduled

Inspection Date: 6/17/99

Inspection Time: 9:00:00 AM

Reason for Inspection:

Annual

Observations: Nature of Business: CERCLA clean-up

- 1.) EPA is remediating the Byrant Mill Pond site to clean-up the PCBs contained in the sediments. The EPA has taken over the old Millenium Holding structures for treatment of wastewater from dewatering sediments. Millenium Holding stop discharging water from the site the end of October 1998.
- 2.) EPA is using Weston Consultants to manage the Bryant Mill Pond project. The contact for Weston Consultants is David Ennis. EPA has hired Bailey Excavation to removed the sediments from the pond and to bring in clean fill sand.
- 3.) Weston consultant figure to have their part of the project completed by mid to late August 1999 which includes excavation of soils in the Bryant Mill Pond, disposing of the soils in the old Allied Paper wastewater lagoons, dewatering the soils and placing a semi-permeable cap over the lagoons. The final cap will be installed by BBL Construction company and will require the removal of the Portage Paper clarifier and the Millenium Holding Treatment System. The final phase should start in late August and be completed by October.

Notes:

EPA Consultant: Weston Consultants - contact David Ennis

373-7008

General Facility Information:

Description of Process(es) at facility inspected (see attachments if applicable):

Sediments from the Bryant Mill Pond are excavated and disposed into the old Allied Lagoon for dewatering. The water flows by gravity to lagoon #1 were the water is pumped to lagoon #2 then to the treatment system. The water is stored in three 20,000 gallon pool (From the Millenium Holding Project) which acts as an equalization tanks. The water is sent through a sandfilter then through two treatment trains of bag filters and carbon units. Each treatment train has a 50 Micron bagfilter, 25 Micron bagfilter, 5 Micron bagfilter and then two carbon unit in series. The treated water is held in two 125,000 gallon retention basins until sample result confirm that PCBs is non-detect. The backwash from the sandfilter is discharged to lagoon #2. The bagfilters are washed on-site at FETCO washing machines which is discharged to a drywell system.

Date: 6/28/99

Page: 1

Sic Code(s):	<u>s</u>	chedule of	Operation:	12 Hours/Day 1 Shifts/Day	7 Days/Weel	
Wastewater Flows:	Process Wastewa	ter Flow:	GPD Avg		GPD Max	
	Total Wastewater	r Flow:	GPD Avg		GPD Max	
Types of Waste(s)	discharged to the sys	tem:				
Sanitary:		0	Dedu	ct Meters:		
Process Water:		0				
Wash Water:						
Rinse Water:						
Cooling Water/N	ICCW:					
Scrubber Water:						
L	·_ · · · · · · · · · · · · · · · · · ·					
How are waste flow	ws measured? Base	d on volun	ne of retenti	on basins		
	nthly average): Munic	inal ·	0			
		·	W	'ell : [Other:	_
Existing or new source :						j
Existing or new source : Is this a Significant Indus Criteria for this determin	strial User? Yes	dversely a	ffecting the	POTW's operatio	n	j
Is this a Significant Indus	strial User? Yes				n uate/representative?	J
Is this a Significant Indus Criteria for this determin Is the Industrial Us	strial User? Yes ation: Potential for a				uate/representative?	
Is this a Significant Indus Criteria for this determin Is the Industrial Us Combined Waste Production-base	strial User? Yes ation: Potential for a ser subject to any of the estream Formula:	e following No ds: No		rent system adeq Yes Yes	uate/representative?	
Is this a Significant Indus Criteria for this determin Is the Industrial Us Combined Waste Production-base Total Toxic Orga	strial User? Yes ation: Potential for a ser subject to any of the estream Formula: d Categorical Standard unic (TTO) Limits:	e following No ds: No No		rent system adeq Yes Yes Yes	uate/representative?	
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Is this a Significant Indus Criteria for this determin Is the Industrial Us Combined Waste Production-base Total Toxic Orga Solvent Manager Notes: Project has a	strial User? Yes nation: Potential for a ser subject to any of the estream Formula: d Categorical Standard unic (TTO) Limits: ment Plans or TOMP: NPDES Permit acility: the facility? Three equalization micron bagfilter 125,000 gallon r water from sedimer	e following No ds: No No No on tanks (1, 25 micropetention back the dewaterion back the following terms of the fol	Type pools) with a n bagfilter, 5 asins	of pretreatment :	uate/representative? Batch	
Is this a Significant Industrial Criteria for this determint Is the Industrial Use Combined Waste Production-base Total Toxic Orgat Solvent Manager Notes: Project has a sewater Treatment Figure 1 to Description of pretreatment at the Description of pretreatment of Types of wastes treated:	strial User? Yes ation: Potential for a ser subject to any of the estream Formula: d Categorical Standard anic (TTO) Limits: ment Plans or TOMP: NPDES Permit cacility: the facility? Three equalization micron bagfilter 125,000 gallon r water from sedimer pass treatment system	e following No ds: No No No on tanks (in the second	Type pools) with a n bagfilter, 5 asins	of pretreatment :	uate/representative? Batch	
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Is this a Significant Industrial Us Is the Industrial Us Combined Waste Production-base Total Toxic Orga Solvent Manager Notes: Project has a ewater Treatment F Is there pretreatment at to Description of pretreatment Types of wastes treated: Are wastewaters that by Design flow for Treatment	strial User? Yes ation: Potential for a ser subject to any of the estream Formula: d Categorical Standard anic (TTO) Limits: ment Plans or TOMP: NPDES Permit acility: the facility? Three equalization micron bagfilter 125,000 gallon r water from sedimer pass treatment system t system: 10 service?	e following No ds: No No No No tes on tanks (in test to the second to the second tanks (in test to the	Type pools) with a bagfilter, 5 asins ng	rent system adeq Yes Yes Yes Yes Yes of pretreatment: a sandfilter and two micron bagfilter from spillage?	Batch vo treatment trains of and two carbon units	

On an attached sheet please find a brief evaluation of treatment adequacy and efficiency and a diagram o wastewater treatment facility. (Diagram should include treatment process, direction of flow, sampling points (if any potential bypass points, discharge point.) is there sludge generated due to treatment of wastewater?: Yes **Description of Sludge:** river sediments <u>Disposal method</u>: discharged to Allied Lagoon #4 Are any RCRA hazardous wastes generated?: No Is a Waste Hauler used? N/A **Hauler Name** Hauler ID **Generator Number** Attach copies of any waste manifests from this facility for the last 12 months. **US EPA Number Hazardous Waste from Nonspecific Sources Disposal Facility** ID# Notes: The treatment system is used to remove PCBs which is a hazardous material. **Chemical/Waste Storage Areas:** No Are containers clearly labeled?: N/A Is there Chemical/Waste storage on site? **Bulk Chemicals/Wastes on site** Quantity Type of storage N/A Are incompatibles stored separately? Are these Chemicals/Wastes stored within a spill contained area of the plant? N/A Are any of these Chemicals/Wastes on the Critical Materials List? N/A On an attached sheet, provide a sketch of storage areas, (Sketch should include locations of Chemicals/Wastes within storage area, floor drains or other outfalls to sanitary sewer system; Notes: N/A Spill Prevention/Containment: Do conditions at this facility require a Spill Prevention Control and Counter Measures Program (SPCC) per 40 CFR 112, a Pollution Incident Prevention Plan (PIPP) per MDNR Rule 5, or a Slug Discharge Prevention Plan concerned with requirements addressing sludge discharges in 40 CFR 403.12(f) and specific prohibitions in 40 CFR 403.5(b)? No Are Emergency spill or discharge procedures posted for immediate employee reference? Yes Yes Do the Emercency spill or discharge procedures include notification policies? To the Control Authority? Yes To the Approval Authority? Yes

Is there secondary containment for materials on the Critical Materials List? Has this facility been responsible for any slug discharges or spills since the last inspection date.	te?
When?	
Notes:	
Industrial User Sampling Procedures:	
Does the Industrial User Self-Monitor? : Yes Are the results copied to POTW	for IU files? Yes
Is the frequency the same as specified in Individual Control Document? How different?	Yes
Do KWRP personnel monitor in lieu of the Industry for purposes of Semi-annual Self Monitoring?	
Do Self-monitoring results considerably differ from IPP monitoring results?	No
Do Self-monitoring requirements cover all local limits and, if applicable, categorical param	
Does the IU have wastestreams that would have significant impact on POTW loadings that would not be covered by categorical or local limits?	No
Explain:	
Are sampling techniques according to 40 CFR Part 136 or some other approved methods? Are all sample points and calculations applicable for enforcing end of process or end of pi	
Are sample locations and type of sample the same as specified in the ICD?	Yes
Is the Metals sample : Grab Is the pH a grab sam	
Where does the IU have labwork done? Off site	163
Parameters done on-site CADMIUM COPPER LEAD MERCURY NICKEL PCBS TOTAL-CHROMIUM ZINC PH	sité
Name of Off-site lab : KAR Laboratories, Incorporated	
Contact person : William Bouma, PH.D. Phone : (616)	381-9666
Notes: Facility grabs a PCB sample every batch and a metal & DNR Scan every week	
Sampling Points:	
Are sampling locations in an Appropriate place to get representative samples of regulated	streams?
Can we measure flow or do we have a verifiable estimate of total flow to the sample point?	Yes
Are sampling points accessible to both the Control Authority and the facility?	Yes

Indid	Samplelocation
APE	Three tanks next to pretreatment system:
200	
	THE STREET SECTION AND ADDRESS OF THE SECTION OF TH

Does IPP Sampling card indicate proper sampling location and flow measurement requirements? Yes

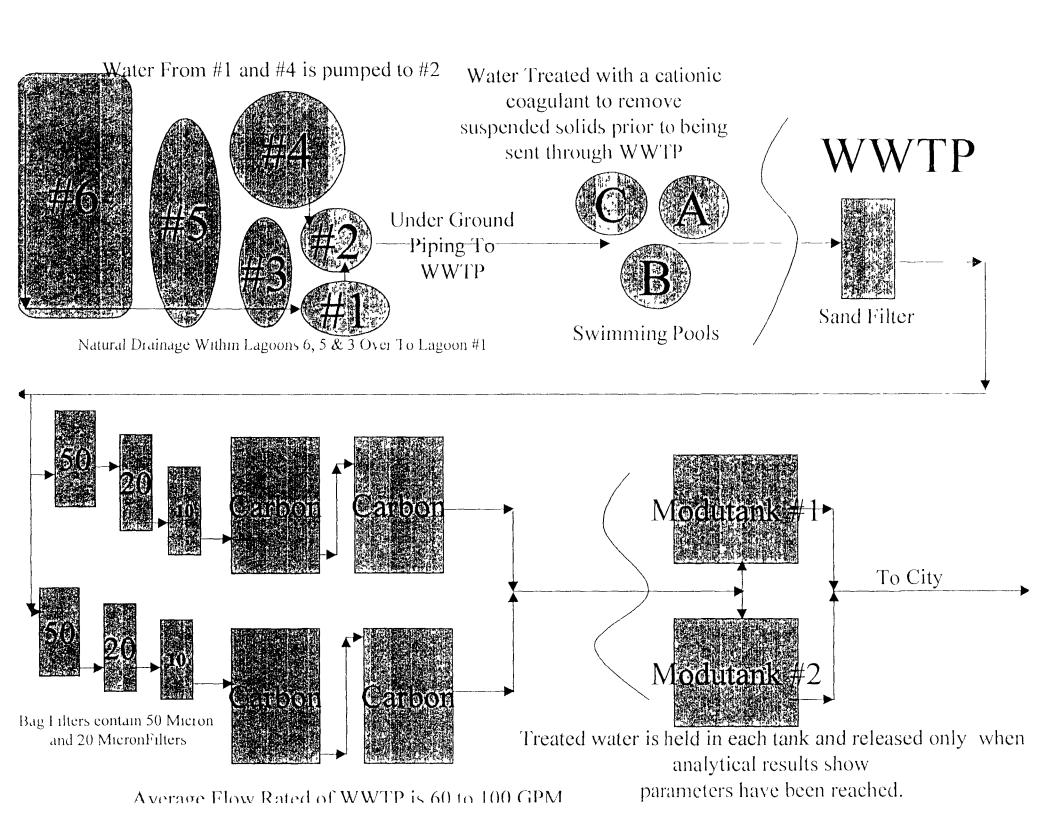
Notes:

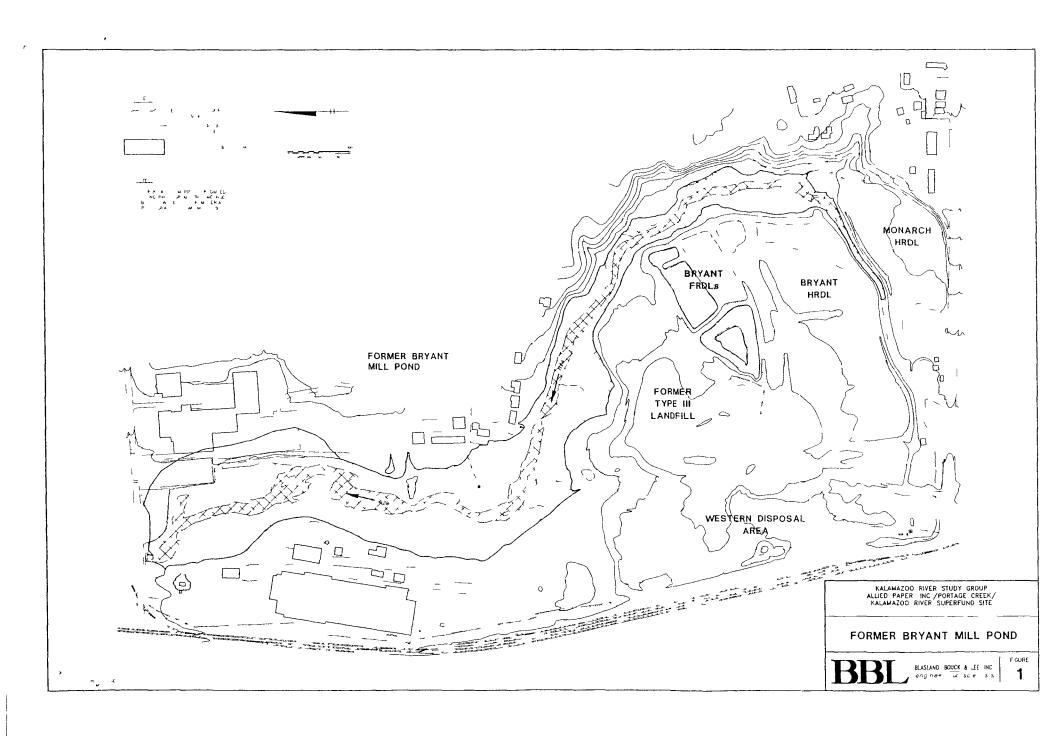
Attachment 5:

Othe	er Items:	
Has the Industri	rial User submitted a Baseline Monitoring Report (BMR)?	Yes
Does the BMR in	include all the information required in 40 CFR 403.12(B)?	Yes
Was the IU req	quired to submit a BMR this reporting period?	[No]
	If yes, date BMR submitte	d:
Was the IU req	quired to submit a 90 day Compliance report this reporting perio	od? No
	If yes, date 90 day compliance report submitt	ed:
Is the IU present	tly under any Enforcement action by the Control Authority?	No
Describe the phy the Industrial Use	ysical characteristics of the watestream in the sanitary sewer which is ser:	emanating from
Clear & Colo	orless	
	waste minimization effort show improvement, maintenance, or it relates to procedures and monitoring?	Improvement
Please elaborate	e: Facility monitors for PCBs.	
How is the facility	ty generally maintained?	
Is any of the info	ormation contained in this form confidential information?	No
Attachment 1 : Attachment 2 : Attachment 3 : Attachment 4 :	Treatment Schematic Site diagram	

Items of Concern:

- 1.) Since the last inspection, the facility has changed the treatment system by adding a sandfilter and removing the polymer addition. The bagfilters microns were changed to help reduced the plugging of the filters. Plus a second treatment train was added to increase the flow rate through the treatment system.
- 2.) The sample collected on March 12, 1999 had a value of 0.05 ppb which was below the City of Kalamazoo's Sewer Use Ordiance detection limit of 0.1 ppb. Bruce Merchant authorized the discharge of the batch based upon the value being below the detection limit.
- 3.) In early May, excess rainfall caused lagoon #1 to become filled with water to the point of almost overflowing. Weston used the old Portage Paper clarifier to treat the water and discharged the water from the clarifier after sampling for PCBs. The water was pumped from lagoon #1 into the clarifier were polymer was added to separate out the solids. The supernate was drained down to the solids level and discharged to the sanitary sewer after being sampled for PCBs. The solids were discharged back to lagoon #2. The discharged to the sanitary sewer was approxiately half a million gallons over the period from May 13 to May29.





LEGEND ELEVATION CONTOUR (NGVD 1929) EDGE OF WATER OR DRAINAGE CHANNEL NOTES. 1 TOPOGRAPHIC MAPPING PRODUCED USING PHOTOGRAMMETRIC METHODS BY LOCKWOOD INC FROM AERIAL PHOTOGRAPHY FLOWN MAY 1991 APPROXIMATE EXCAVATION LIMITS 2 EXCAVATION DEPTHS RANGE FROM 6FT AT ALCOTT ST. DAM 10 2FT AT MOST SOUTHERN REACHES OF THE EXCAVTION LIMIT ACTUAL EXCAVATION DEPTH MILL BE DETERMINED BY A "FIELDS" MAP AND VERIFICATION SAMPUNG ("PELDS" MAP IS BEING PRODUCED BY U.S. EPA)



Wastewater Division 1415 N. Harrisch Kalamazoo Michigan 49007-2565 (616) 337-8157 Fax (616) 337-8699

August 16, 1999

Mr. Brad Stimple EPA-Allied Paper % 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

Your request to reduce self-monitoring parameters to PCB's only is approved. Data previously submitted indicates the only parameter of concern is PCB's. This reduction in self-monitoring parameters was effective July 14, 1999.

Please call Robert C. O'Day at 616-337-8705 with any questions and/or concerns.

Sincerely,

Bruce E. Merchant

Acting Wastewater Superintendent.

c Dave Enis, EPA-Allied Paper Site
Robert C. O'Day, Industrial Inspections Supervisor
File

BOD:dm/O'Day/EPA - Self-Monitoring Parameters Reduction



Wastewater Division 1415 N. Harrison kalamazoo Michigan 49007-2565 (616) 337-8157 Fax (616) 337-8699

FILE COPY

January 11, 1999

Mr. Samuel Friedman Millennium Holdings % SCM Chemicals Inc. 200 International Cr., Suite 5000 Hunt Valley, MD 21030

Dear Mr. Friedman:

Attached please find the Individual Control Document (ICD) Application Form. This form must be completed and submitted to this office on or before Friday, February 12, 1999.

This form is required to be submitted prior to reissuing your new ICD. Please be advised that authorization to discharge under the terms and conditions of your original ICD continues for 180 days after the expiration date if a timely and complete reapplication form has been submitted to this office. Your current ICD expires March 31, 1999.

Please call me at 616-337-8440 or Robert O'Day at 616-337-8705 should you have any questions regarding this form.

Sincerely,

Sue Foune

Technical Services Manager

c File

SF:dm/icds/reapp icd ltr



415 Stockbridge Kalamazoo, Michigan 49001-2898 (616) 337-8149 FAX (616) 337-8533

March 10, 1999

Mr. Brad Stimple EPA-Allied Paper 77 North Jackson Blvd., SE-5J Chicago, IL 60604

Dear Mr. Stimple:

By now, most of you have heard of the "millennium bug" and its association with computerized equipment and software management systems. This "bug," also known as the "year 2000 problem," affects any computer program which has only a 2 digit year field. With only 2 digits representing the year, computer programs that deal with dates have no way of knowing what century the date belongs to (i.e., 1900 or 2000).

The City of Kalamazoo has an aggressive program in place with the goal of ensuring that its water and wastewater systems will function with minimal disruption through the year 2000 date. A taskforce has been working on assessing all equipment, components, processes, and systems critical for the continuous delivery of service to you. As a result, Operations staff for the Water and Wastewater Utilities are confident that both systems will continue to have the ability to perform in both manual and automatic modes of operation well into the millennium. However, electric power clearly is one the most important service on which we rely.

In the event of a total electrical power failure, the water system has alternative power capabilities and can continue to keep the system operational on a limited basis. The wastewater system relies heavily on purchased electrical power. The utility is working closely with our electric supplier to address external factors which could affect energy delivery. We are also investigating alternative power sources as part of our Y2K contingency planning for the wastewater system.

Due to the widespread public interest in our ability to provide water and wastewater service during the Y2K transition, we will continue to provide updates on the issue. Please be assured that the steps we are taking are designed to ensure that any problems which might occur because of the Y2K date change, will be addressed and corrected as quickly as possible. We will also continue to maintain and upgrade all facets of our operation in order to insure the highest quality of service to our customers.

_ _ _

Department of Public Services Managing Director

KPC dm/Y2K/Y2K Industrial Response Letter

Bay AT MILL PERD Clean- y

U.S. EPA-REGION I 77 WEST JACKSON ST > SE-5J CHICAGO, IL 60604 ATTN. BRAD STIMPLE

PHA 1-312-886-0406

- 1) BMR
- 2) LOCAL CINITS

- 3) Avalytical Requirements
 4) Frequency of Monitoring
 5) From Metering Requirements
 6) Discharge Location Hydraulic CAPACITY

BRAD STIMPLES

United States
Environmental Protection Agency

Region 5

77 West Jackson Blvd. うとっちン

Chicago, IL 60604-3590

Official Business

Penalty for Private Use, \$300



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Mr. Hal Bloke more
Company raine: Roy F Woster

Company raine: Roy F Woster

Any (610) ?

roduct 12-111 - 113

Name of Facility EPA-Allied Address	/	OBSERVATION
Contact Brad Stim		
retention basin. The a Oosppb livel of To detection limit of or Past information to	tal PCB Accolors	elts indicate Below KWRP ive results.
Observations:		
	<i>*</i>	
	,	
Further Action Required: <u>BE</u> called Gopa Nar to g	M gave permission Pire approval a	1 1:00 m 3/19/
File: General Correspondence Inspection Lab Data Self-Monitoring/Compliance		M/),
Other New Industrial User Needs Attention	Signature Journ	Mochou
submitted by		

. BASELINE MONITORING REPORT (BMR)

Control Authority: City of Kalamazoo - Department of Public Utilities

(In accordance with 40 CFR Part 403.12(b))

(III accorda	lice with 40 Crk Part 403.12(D))
i. IDENTIFYING INFORM	ATION:
NAME OF FACILITY:	
FACILITY ADDRESS:	. `
CITY •	STATE ZIP
NAME(S) OF OWNER(S)	
(IF DIFFERENT	
CITY:	STATE_ZIP_
indicated above. Plea held (what they are f	romental permits held by or for the facility ase also indicate what type of permit(s) are for), who issued the permit(s) and when the plus the expiration date(s), if applicable.
TYPE OF PERMIT PERMIT	NUMBER ISSUED BY DATE ISSUED EXPIRES

III. DESCRIPTION OF OPERATIONS:

A.	Briefly describe below the nature of this facility's operations. Please use additional pages if necessary and attach any appropriate drawings, sketches or diagrams if needed to provide adequate details regarding these operations.
	•
	•
	
alan de la compansión de	
В.	In the table below, detail the average rate of production along with the appropriate SIC (Standard Industrial Classification) Code(s) for operation(s) carried out by this facility. Please attach a schematic process diagram indicating all discharge points to the sanitary sewer. Use additional pages if necessary.
	OPERATION AVERAGE PRODUCTION RATE SIC CODE
-	
	
	· ·

IV. FLOW MEASUREMENT:

Please indicate below the measured average daily and maximum daily flows of all regulated processes and all other process flows necessary for the use of the Combined Wastesteam Formula (CWF - see 40 CFR Part 403.6(e)).

40 Crk Fait 403.6(e)).		
PROCESS (PLEASE INDICATED OR NONREGULATED	E AVERAGE DAILY D) FLOW (INDICATE UNITS)	MAXIMUM DAILY FLOW
• .		
	•	
V. MEASUREMENT OF POLLUT	ANTS:	
Identify all applicable processes detailed above sampling and analysis ide mass, where applicable) from each regulated proncentrations (or mass collected for such analys operations. Please also composite, grab, etc collection. Attach apadditional pages if neces	ntifying the nature and of regulated pollutants ocess. Both daily maximal shall be reported ses shall be representative indicate the type of sampoplicable laboratory respectively.	any results from concentration (or in the discharge mum and average and any samples e of normal daily les collect (i.e. of the sample
APPLICABLE DAILY MAX PRETREATMENT CONCENTRATE STANDARDS (OR MASS	TION CONCENTRATION TY	PE OF SAMPLING

VI. CERTIFICATION:

This aspect of the submittal involves two (2) portions:

- 1) Qualified Professional Certification; and,
- 2) Authorized Representative Certification.

Based upon the certification provided (i.e. compliance or noncompliance), submission of a proposed compliance schedule may be necessary. Please review 40 CFR Part 403.12 (b) (6) & (7) plus 403.12 (i) and (k) carefully prior to completing and signing in any designated areas below. Please note that there are strict requirements governing who is a Qualified Professional and Authorized Representative. A copy of the pertinent regulations is attached for reference.

- A. Qualified Professional Certification:
 - 1. COMPLIANCE CERTIFICATION

Title

I am personally familiar with that the above-referenced for wastewaters discharged from hereby certify	acility and with the
(write in applicable Pretreatron the line above) are being me	
Qualified Professional	Representative Firm

Date

BMR - PAGE 5

В.

VI. C	ERTIFICATION (continued):
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2	NONCOMPLIANCE	CERTIFICATION
<i>2.</i>	MOMCOMEDIAM	

2. NC	performed at the above-re	from these operation(s). I
	on the line above) are not basis. A compliance sch compliance date no later	edule is enclosed with a than the date specified in tment Standard or upon
	Qualified Professional	Representative Firm
	Title	Date
Autho	accompanying professional my inquiry of those responsible for obtaining	ve-referenced document and certification. Based upor individuals immediately the information reported the submitted information is
	Signature Title	
	Date	

VII. COMPLIANCE SCHEDULE:

Based upon the reply to the Certification secion above, please complete the proposed compliance schedule detailed below as required. Please note that no more that nine (9) months can elapse between dates within the proposed compliance schedule and that written updates must be submitted to the Control Authority within fourteen (14) days of each date in the compliance schedule.

PROPOSED COMPLIANCE SCHEDULE

Compliance Task	Date	of	Completion
Process flow and source data verification			
Selection of alternatives and, if necessary, pretreatment studies and enginneering design submitted to Control Authority			
Construction and, or, implementation of selected alternatives, if necessary.			
Complete Construction and, or, implementation of selected alternatives, if necessary.			
Final Compliance Date			

KALAMAZOO WATER RECLAMATION PLANT DISCHARGE LIMITATIONS

Discharges to the Kalamazoo Water Reclamation Plant are controlled by the following limitations:

POLLUTANT	Daily Maximum Concentrate Limit (ug/L)
Cadmium, T	40
Chromium, T	4,670
Copper, T	2,230
Lead, T	110
Nickel, T	1,590
Zinc, T	5,300
Cyanide, T	250
Total Petroleum Hydrocarbon	100 (mg/L)
pН	6.2 - 9.8 S.U.
BETX	15 (mg/L)

<u>Prohibited Discharges</u> - Condensed from the General Pretreatment Regulations and the Kalamazoo City Code of Ordinances.

1. PCB's - no discharged allowed. (0.0001 mg/l required detection limit)

2. Mercury - no discharge allowed. (0.0005 mg/l required detection limit)

- 3. Pollutants which cause a fire or explosion hazard including, but not limited to, wastestreams with a closed cup flash point of less than 140 degrees Fahrenheit or 60 degrees Centigrade.
- 4. Solid or viscous pollutants in amounts which will cause obstruction in flow.
- 5. Any pollutant, including oxygen demanding pollutants (BOD, etc.) which will cause interference with wastewater treatment or which will pass through untreated.
- 6. Heat in amounts which will inhibit biological activity, but in no case heat in such quantities that the temperature at the plant exceeds 104 degrees Fahrenheit or 40 degrees Centigrade.
- 7. Pollutants which result in the presence of toxic gases, vapors, or fumes in a quantity that may cause health and safety problems for sewer workers or the general public.
- 8. Any trucked or hauled pollutants except at the designated discharge point at the Kalamazoo Water Reclamation Plant.
- 9. Radioactive wastes or isotopes, unless their disposal via wastewater is authorized by federal, state, and local regulations, and then only when discharged into the wastewater system does not cause damage or a hazard to the system, persons operating the system or the general public.
- 10. Wastewater discharged at a rate which upsets or interferes with the treatment process or causes a hydraulic surge.
- 11. Storm water, uncontaminated groundwater, unpolluted non-contact cooling water.

In addition to these limitations, certain industrial discharges are subject to Categorical Pretreatment Standards.

return this card to you Attach this form to the front of the mailpiece, or on the back is does not permit Write Return Receipt Requested on the mailpiece below the arti- The Return Receipt will show to whom the article was delivered as	f space cle number	I also wish to receive the following services (for an extra fee) 1
3 Article Addressed to	4a Artı	icle Number
Mr. Brad. Stimple EPA - Allies FAFEL 1977 North Jackson Blvo., 18E. SJ 1 Lobort	Regis Certi	vice Type stered Insured Insur
5 Signature (Addressee)		ressee's Address (Only if requested fee is paid)
Will Home		OMESTIC RETURN RECEIPT
	Complete items 1 and/or 2 for additional services Complete items 3 and 4a & b Print your name and address on the reverse of this form so the return this card to you Attach this form to the front of the mailpiece, or on the back is does not permit Write Return Receipt Requested on the mailpiece below the article. The Return Receipt will show to whom the article was delivered as delivered. Article Addressed to M. DRAD Shaple EAA - Allies Fapel M. DRAD Shaple SE. S.J. Michael Tolder Signature (Addressee) 6. Signature (Agent) Allies Allies Allies Allies Signature (Agent) Allies Signature (Agent) Allies • Complete items 1 and/or 2 for additional services • Complete items 3 and 4a & b • Print your name and address on the reverse of this form so that we can return this card to you • Attach this form to the front of the mailpiece, or on the back if space does not permit • Write Return Receipt Requested on the mailpiece below the article number • The Return Receipt will show to whom the article was delivered and the date delivered 3 Article Addressed to 4a Art 4b Ser Regin Regin Certin SE. SJ Obod4 5 Signature (Addressee) 8 Addin and 6. Signature (Agent) Addressee	

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Mastewaler Division 1415 N. Harrison Kalamazoo N. Hilgan 49007-25cc (6161 337-8157 Fax (6161 337-8699

August 14, 1998 Certified Mail # Z 121 368 761

Mr. Brad Simple EPA - Allied Paper 77 North Jackson Blvd., SE-5J Chicago, IL 60604

RE: US EPA - Allied Paper

Dear Mr. Simple:

Please find the Individual Control Document for your facility enclosed with this letter. The Industrial Pretreatment Program requires that a document of this nature be used to specify the conditions under which a Significant Industrial User may discharge wastewater to the City of Kalamazoo Water Reclamation Plant.

Please take the time to read this document and all referenced materials carefully. I ask that you pay particular attention to the reporting requirements starting on page 5 and the monitoring requirements in Part III. The federal government places great emphasis on your responsibility to monitor and report on the quality of wastewater discharged to wastewater treatment plants. A simple missed or late report can place an industrial facility in Significant Noncompliance with pretreatment regulations.

Please note the sampling frequency for Polychlorinated Biphenyls (PCBs) on page 8, is every batch discharged. The detection limit required or PCBs is 0.1 micrograms per liters.

I have also enclosed copies of the City of Kalamazoo Sewer Use Ordinance and Sewer Use Regulations #1-89, #91-1, and #94-1. Of particular importance is Section 28-10 of the Sewer Use Ordinance which provides a list of prohibited discharges referenced in the Individual Control Document.

If you have any questions regarding this matter please call me at (616) 337-8686.

Sincerely,

Robert E. DeMink

Wastewater Superintendent

c: Kenneth P. Collard, Director of Public Services Robert Cinabro, City Attorney File

CITY OF KALAMAZOO **WASTEWATER SERVICE**

User Name:

Address:

EPA-Allied Paper 77 North Jackson Blvd., SE-5J

Chicago IL 60604

Site Name :

Address:

US EPA-Allied Paper Allied Dewatering Lagoons Kalamazoo MI 49001

Date of Issue:

August 13, 1998

Expiration Date:

December 31, 1999

SEWER USE REGULATION NO. 94-1

In accordance with the City of Kalamazoo Industrial Pretreatment Program and the Nondomestic User Control Program a pollutant discharge limit is established as follows:

POLLUTANT

DAILY MAXIMUM CONCENTRATION LIMIT (ma/l)

Petroleum Hydrocarbons

100

Compliance with this discharge limit shall be determined by using the analytical method described in the most recent edition of "Standard Methods For The Examination Of Water and Wastewater" for the measurement of Petroleum Hydrocarbons unless an alternative method has been recognized by the Director of Public Utilities.

Issued this 9th day of February, 1994

Kenneth P. Collard

Public Utilities Director

SEWER USE REGULATION NO. 91-1

In accordance with the City of Kalamazoo Industrial Pretreatment Program and the Non-domestic User Control Program pollutant discharge limits are established as follows:

<u>POLLUTANTS</u>	DAILY MAXIMUM CONCENTRATION LIMIT (mg/L)
Cadmium (Cd)	0.040
Chromium (Cr)	4.670
Copper (Cu)	2.230
Lead (Pb)	0.110
Nickel (Ni)	1.590
Zinc (Zn)	5.300
Total Cyanide (CN)	0.250

Total mercury and total PCB's are pollutants completely prohibited from being discharged into the wastewater treatment system unless an industry exemption has been recognized by the Director of Public Utilities.

Issued this 29th day of April 1991.

Orlin K. Loen, Director

Public Utilities

CITY OF KALAMAZOO, MICHIGAN DEPARTMENT OF PUBLIC UTILITIES WATER RECLAMATION PLANT:

SEWER USE REGULATION # 1-89

- 1. Whenever a violation of Chapter 28 of the Kalamazoo Code or any statute, regulation, permit, or administrative order incorporated by or issued under or pursuant to said chapter occurs, the Director may assess a civil administrative penalty of not more than \$500.00 per day violation, commencing with the beginning of said violation.
- 2. Any person against whom such a penalty is assessed may request a hearing pursuant to section 28-16(b) of the Kalamazoo Code, provided that said request is received by the Director within ten working days of receipt of the notice of the penalty. A person has received notice either upon actual receipt or, in the event actual receipt does not occur, when the U. S. Postal Service returns certified mail as unclaimed.
- 3. The hearing officer shall determine whether a violation has occurred and, if he finds a violation, the date(s), type(s), severity, and nature of the violation, and what level and amount of penalty is appropriate, not exceeding \$500.00 per violation per day.
- 4. In determining the proper amount of penalty, the hearing officer shall consider the type, nature, severity, frequency, duration, preventability, potential and actual effects, and economic benefit (such as delayed or avoided costs or competitive advantage) of the violations(s), and the violator's recalcitrance and/or efforts to comply. If the violator wants its ability to pay or any other mitigating factor to be considered, the violator bears the burden of demonstrating the presence and degree of such factors. The fact that a penalty would cause severe financial damage or put a violator out of business is not determinative. If the violator has not made all good faith efforts to correct and terminate violations, mitigating factors shall not be considered.
- 5. Any penalty issued by the Director which is not challenged as provided herein or any penalty assessed by the hearing officer but not paid within 30 days of notification thereof shall be considered a charge for wastewater service under section 28-31 and subject to collection as provided in said section. The notice provisions of section 2 of this Regulation shall apply to the notification of penalty. No further administrative hearing is required.

Issued this 5 day of December, 1989.

Orlin K. Loen, Director

Public Utilities

Individual Control Document

Table of Contents

Part I: General Discharge Standards Compliance Schedule Monitoring And Reporting Effective Date and Expiration Date	1 1 1 1
Part II: Regulations and Requirements Effect of Individual Control Document Compliance with Applicable Law Property Rights Non-transferability of Individual Control Document Reapplication And Continuance Duty To Reapply Continuation of Individual Control Document Inspection And Entry Reporting And Approvals Anticipated Process Changes Notification Notification Of Changes Impacting Discharge Limits Developed Under the Combined Wastestream Formula And Approval Of Changes Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits Notification Of Changes Potential Non-Emergency Situation) Notification Of Potential Noncompliance Notification Of Potential Noncompliance Notification Of Slug Discharges Notification Of Slug Discharges Notification Of Violations Baseline Monitoring Report, 90-Day Compliance Report And Other Federally Mandated Reports Duty To Provide Information Other Information Telephone Numbers And Reporting Address Signatory Requirements Record Retention Public Availability Of User Information Proper Operation And Maintenance Termination Of Service Modification, Revocation Or Termination Of Individual Control Document Termination Of Service Modification, Revocation Or Termination Of Individual Control Document Duty To Comply, Liability For Noncompliance Duty To Comply Penalties For Noncompliance Damages Public Notice Of Noncompliance	22222222333 33344444445555555556666
Termination Of Individual Control Document Cessation Of User Discharge Duty To Mitigate Need To Halt Or Reduce Activity Not A Defense Kalamazoo Reservation Of Rights Notification Of Responsibilities Under The Clean Water Act And Resource Conservation Recovery Act Spill Prevention Slug Discharge Control Plan Submission Of Draft Plan Revision Of Draft Plan Compliance With Approved Plan Authorized Kalamazoo Representatives Severability	6 6 6 6 6 7 7 7 7 7 7
Part III: Discharge Limitations, Monitoring Locations And Reporting Local Discharge "End-Of-Pipe" Limitations Process-Specific Discharge "End-Of-Process" Limitations Discharge Prohibitions Discharge Points And Monitoring Facilities Self-Monitoring And Reporting	888999 99

Frequency and Sampling Requirements	9
Reporting of Increased Monitoring Data	9
Repeat Sampling When Violation Indicated	9
Self-Monitoring Řeports	9
Other User Specific Monitoring and Reporting Requirements	10
Averaging Of Measurements	10
Dilution Prohibition	10
Combined Wastestream Formula	10
User To Derive Alternative Discharge Limits Using Combined Wastestream Formula	10
Record-Keeping	10
Part IV: Compliance Schedule	11
Action Required	11
Reporting	11
Effect Of Compliance Schedule	11
Inclusion Of Compliance Schedule Discretionary	11
Compliance With Schedule Milestones Not A Defense	11
Compliance With Federal Categorical Standards	11
Part V: Definitions	13

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V

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part I: General

User Name

EPA-Allied Paper

Address

77 North Jackson Blvd . SE-5J

Chicago IL 60604

Phone Contact

(312) 886-0406 Mr Brad Stimple

Site Name Address US EPA-Allied Paper Allied Dewatering Lagoons

Kalamazoo MI 49001

Phone Contact

(312) 886-0406 Mr Brad Stimple

In accordance with the provisions of Kalamazoo Code 28-1 et seq , Michigan Administrative Code R 323 2162 et seq and 40 CFR Chapter 1, Subchapter N, EPA-Allied Paper hereafter referred to as "User" which is synonymous with "Significant Industrial User" for the purpose of this document is authorized to discharge nondomestic wastewater from the above identified facility and through the outfalls identified herein into the wastewater system of the City of Kalamazoo in accordance with the terms and conditions set forth in this Individual Control Document

A Discharge Standards

Specific limits on applicable pollutants discharged to the sanitary sewer are presented in Part III

B Compliance Schedule

As required, areas of noncompliance or a time-frame to achieve compliance with new requirements, shall be resolved on the specified timetable included in Part IV

C Monitoring And Reporting

User shall install and maintain necessary monitoring systems and pretreatment equipment. User shall perform any required wastestream sampling and analyses. Additional requirements pertaining to monitoring and reporting of monitoring results are set forth in Part II and Part III.

D Effective Date and Expiration Date

This Individual Control Document is effective as of August 17, 1998 and authorizes User's discharge, subject to the conditions set forth in Parts I, II, III, IV, and V herein, until midnight, December 31, 1999

Kenneth P. Collard Director of Public Services

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual control Document
Part II: Regulations and Requirements

User Name EPA-Allied Paper

Address 77 North Jackson Blvd , SE-5J

Chicago IL 60604

Phone (312) 886-0406 Contact Mr Brad Stimple

Site Name

Address

US EPA-Allied Paper

Allied Dewatering Lagoons

Kalamazoo MI 49001

Phone (312) 886-0406 Contact Mr Brad Stimple

A Effect of Individual Control Document

1 Compliance with Applicable Law

This Individual Control Document does not relieve the User of its obligations under any local, state, or federal statutes, ordinances, rules, or regulations. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of Ordinances (Chapter 28), and in any associated Wastewater Use Regulations. User shall comply with all applicable federal, state, and local pretreatment laws, regulations, rules, ordinances, and other pretreatment requirements, including those that may become effective during the term of this Individual Control Document.

2 Property Rights

This Individual Control Document does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to persons or property, invasion of other private rights, or any infringement of federal, state or local laws regulations rules, ordinances, or other requirements

3 Non-transferability of Individual Control Document

This Individual Control Document applies only to the aforementioned identified User and shall not be transferred to another User. A copy of this Individual Control Document must be provided to any new owner/operator of the User's facility prior to the transfer of ownership and/or operator responsibility. User shall adequately document such action (i.e., by certified mail receipt or a signed statement by the owner/operator) and shall provide a copy of the notice or signed statement to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, within seven (7) days of such action

B Reapplication And Continuance

1 Duty To Reapply

If User wishes to continue an activity authorized by this Individual Control Document after its expiration date, User must submit a renewal application at least ninety (90) days prior to the expiration date of this Individual Control Document (unless permission for a later submission date has been granted in writing by the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities)

2 Continuation of Individual Control Document

Authorization to discharge under the terms and conditions of this Individual Control Document continues after the expiration date, subject to the conditions set forth herein, only if (a) User has submitted a timely and complete application for reissuance of an Individual Control Document and (b) the City of Kalamazoo, through

no fault of User has not yet provided the User a written determination as to whether an Individual Control Document will be reissued. Such authorization to discharge continues only until the date upon which the reapplication is reissued to User or the City of Kalamazoo provides User written notice that an Individual Control Document will not be reissued. whichever comes first

C Inspection And Entry

User shall allow authorized Kalamazoo Department of Public Utilities' staff members and their authorized agents and representatives to enter upon the User's premises where a regulated facility or activity is located or conducted, or where records are kept pertaining to such facility or activity 1) at all reasonable times whether or not discharge is occurring, and 2) at any time when there is a reason to believe a discharge or violation is occurring, for inspecting all operations and records, equipment (including monitoring and control equipment), copying records, and observing and sampling wastewater discharges or production processes

D Reporting And Approvals

- 1 Anticipated Process Changes Notification
 - User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities of any anticipated process change which may substantially affect User's wastewater flow or quality. Process changes under this section are defined as major plant expansions or modifications which result in the discharge of (i) new pollutants, (ii) changed pollutants (e.g., BOD) such that the Kalamazoo treatment plant would be receiving a wastestream to which it is not acclimated, or (iii) the introduction of higher quantities or concentrations of existing pollutants. All process changes that could substantially increase User's flow or substantially affect User's wastewater quality (e.g., lower User's wastewater quality) must be approved by the Department of Public Utilities prior to implementation.
 - b The Department of Public Utilities may require the User to undertake a compatibility study to demonstrate to the satisfaction of the Department that the wastewater to be discharged is compatible with the existing Kalamazoo wastewater system will not affect any requirements imposed upon the City (including sludge disposal requirements) and will not adversely affect the Kalamazoo wastewater system
- 2 Notification Of Changes Impacting Discharge Limits Developed Under the Combined Wastestream Formula And Approval Of Changes (If Applicable)
 - If User is subject to alternative discharge limits based upon the combined wastestream formula (40 CFR § 403 6(e)), User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, within five (5) business days after the User has a reasonable basis to believe that an anticipated plant operation change may result in a material or significant change in the values used in calculating alternative categorical discharge limits under the combined wastestream formula. Plant operation changes under this subsection include, but are not limited to, changes in production and changes in the flow of a regulated process wastestream, unregulated process wastestream or dilute wastestream.
 - User shall provide the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, written notification of its intent to mix a regulated process wastestream prior to its treatment with wastewaters other than those generated by the regulated process. Such mixing of wastestreams must be approved by the Department of Public Utilities prior to implementation. These provisions do not apply to mixtures of regulated process wastestreams which have already been identified to the City of Kalamazoo and which are subject to an effluent limitation in Part III based upon the combined wastestream formula or a more stringent state or local limitation. (See also Part III, Section VIII pertaining to User derivation of alternative discharge limits.)
- 3 Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits

User shall provide the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, at least thirty (30) days written notification of its intent to combine an unregulated process wastestream with a treated regulated process wastestream if monitoring for compliance with applicable categorical pretreatment standards occurs at a point downstream of where the wastestreams are combined. Such action may require modification of discharge limits in Part III based upon the flow-proportioning calculation or modification of sampling locations, as appropriate

4 Notification Of Changed Discharge (Non-Emergency Situation)

User shall provide written notification to the Industrial Services Supervisor, at the Department of Public Utilities within five (5) working days, of any substantial change in the volume or character of pollutants in its discharge, including changes in the listed or characteristic hazardous wastes for which the User has submitted a notification under 40 CFR § 403 12(p)

5 Notification Of Production Changes (If Applicable)

Not Applicable

6 Notification Of Potential Noncompliance

User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any planned changes in its activities which may result in noncompliance with the terms and conditions set forth herein

7 Notification Of Slug Discharges

User shall provide immediate notification by telephone to the Department of Public Utilities of any spills, slug loads bypasses or upsets in pretreatment processes that affect discharge to the wastewater system, could cause problems to Kalamazoo's wastewater system or which otherwise could be reasonably expected to endanger health or the environment. User must monitor its processes and activities to assure prompt detection of any problems. A written report, explaining the event, and what steps are being taken to prevent future occurrences must be submitted to the Industrial Services Supervisor within five (5) working days following the event.

8 Notification Of Violations

If sampling performed by the User indicates a violation of any local, state or federal discharge limitations, the User must notify by telephone the City of Kalamazoo Department of Public Utilities within 24 hours of becoming aware of the violation

9 Baseline Monitoring Report, 90-Day Compliance Report And Other Federally Mandated Reports

User shall comply with baseline monitoring report requirements, ninety-day compliance report, and other federally mandated reporting requirements as set forth in 40 CFR § 403 et seq

10 Duty To Provide Information

User shall furnish the City of Kalamazoo, within a reasonable time, any information which the City may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the Individual Control Document or to determine User pretreatment compliance. User shall also furnish to the City, upon request, copies of records required to be kept by the Individual Control Document.

11 Other Information

Where the User becomes aware that it failed to submit any relevant facts in an application for an Individual Control Document or submitted incorrect information in an application for an Individual Control Document, report to the City of Kalamazoo or in any other correspondence pertaining to its nondomestic wastewater discharge, it shall promptly submit such facts or information

12 Telephone Numbers And Reporting Address

- a Any notifications or reports required by this Individual Control Document regarding spills, slug discharges, or other emergencies to be communicated via telephone to the Public Utilities Department shall use the following telephone numbers
 - (1) Telephone the Treatment Control Analyst (TCA) at (616) 337-8681 If the TCA does not answer, leave a message on the recorder with your name, company, a phone number where you can be reached and reason for your phone call They will respond to your phone call promptly
- b For non-emergency notifications or general telephone communications use (616) 337-8701
- c Any written notifications or reports required by this Individual Control Document to be submitted to the Kalamazoo Public Utilities Department shall be submitted to the following address

Industrial Inspections Supervisor City of Kalamazoo Public Utilities Department 1415 North Harrison Street Kalamazoo Michigan 49007-2565

E Signatory Requirements

All reports required under this Individual Control Document or otherwise submitted to the Kalamazoo Public Utilities Department pursuant to federal state or local pretreatment requirements shall be signed by a representative of the User in accordance with 40 CFR § 403 12(1) and shall include the following certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

F Record Retention

User is required to retain all records pertaining to its wastewater discharge for a minimum of three (3) years and shall make such reports available for inspection and copying by the City. This includes, but is not limited to, all records of monitoring activities and results (whether or not such monitoring activities are otherwise required by the Individual Control Document) including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, monitoring information identified in Part III, copies of reports required by the Individual Control Document, and records of all data used to complete the application for issuance or reissuance of this document. This period of retention is automatically extended during the course of any unresolved litigation regarding the discharge of pollutants or when requested in writing by the City of Kalamazoo at any time

G Public Availability Of User Information

At a minimum the following User information received by the City of Kalamazoo shall be made available for public inspection by the Department of Public Utilities (1) effluent data (2) any data used to determine compliance with Chapter 28 of the Kalamazoo Code or the National Pollutant Discharge Elimination Permit issued to the City of Kalamazoo and (3) other User information and data, to the extent provided by 40 CFR § 403 13(b) and (c)

H Proper Operation And Maintenance

User shall at all times properly operate and maintain all pretreatment facilities and systems of treatment and control (and related appurtenances) which are installed or used by the User to achieve compliance with the terms and conditions of this Individual Control Document. This includes adequate laboratory controls and appropriate quality assurance procedures, the operation of back-up or auxiliary facilities or similar systems which are installed by the User only when the operation is necessary to achieve compliance with the conditions of this Individual Control Document

1 Termination Of Service and Modification Revocation Or Termination Of Individual Control Document

1 Termination Of Service

The Department of Public Utilities can take immediate action to terminate service and/or halt discharges if the User's discharge poses a significant threat to the City's wastewater collection or treatment system, the environment, or human health or welfare

2 Modification Revocation Or Termination Of Individual Control Document

- a This Individual Control Document or any part thereof, is subject to change, modification, revocation or reissuance at the sole discretion of the City of Kalamazoo
- A request by the User for modification or revocation and reissuance does not stay any term or condition set forth herein pending a decision by the City of Kalamazoo upon such request

J Duty To Comply Liability For Noncompliance

1 Duty To Comply

User must comply with (a) all terms and conditions of this Individual Control Document and (b) applicable pretreatment requirements established under federal state or local law whether or not those requirements are specifically set forth herein. These requirements include, but are not limited to, federal categorical pretreatment standards (40 CFR Chapter 1 Subchapter N), federal general prohibitions (40 CFR § 403 5(a)(1) federal specific prohibitions (40 CFR § 403 5(b) and local limits set forth in Chapter 28 of the

Kalamazoo City Code of Ordinances Any noncompliance constitutes a violation and is grounds for enforcement action for Individual Control Document termination, revocation and reissuance, modification, or denial of a request for reissuance

2 Penalties For Noncompliance

Noncompliance with any terms or conditions of this Individual Control Document, any applicable statute, ordinance regulation, rule, or other pretreatment requirement may subject the User to civil and/or criminal penalties. These penalties include but are not limited to, a fine of \$25,000 per day for each violation under federal law (33 U S C § 1319(d)) and the administrative assessment of up to \$500 00 per day per violation under local law (City of Kalamazoo Wastewater Use Regulation 1-89)

3 Damages

In addition to any applicable civil or criminal penalty, User is liable for

- a All damage which its discharge does to the City of Kalamazoo's wastewater collection or treatment system if that damage is caused, in whole or in part, by the User's violation of this Individual Control Document or any applicable law ordinance, regulation, rule, or pretreatment requirement
- b Any penalty imposed upon the City of Kalamazoo (whether by judicial or administrative order or the settlement of a judicial or administrative penalty action) where the violation of the City of Kalamazoo was caused by the User, either alone or in conjunction with discharge(s) from other source(s)
- c Such other damages, e.g., lost revenues, as are authorized by law to be collected by the City of Kalamazoo

4 Public Notice Of Noncompliance

If User is determined by the City of Kalamazoo to be in significant noncompliance, as defined in 40 CFR § 403 8(f)(2)(vii) the City of Kalamazoo shall provide an annual public notification of such status in a local daily newspaper

5 Termination Of Individual Control Document

Compliance with this Individual Control Document is a necessary condition of receiving wastewater service. The City of Kalamazoo may terminate this Individual Control Document and wastewater service for, among other things, noncompliance with any of the terms or conditions set forth herein, or any requirements set forth in an applicable law, ordinance, regulation or rule

6 Cessation Of User Discharge

Upon notice from Kalamazoo, User shall immediately cease any discharge of pollutants which reasonably appears to present an imminent endangerment to the health or welfare of persons, presents an endangerment to the environment or which threatens to interfere with the operation of the Kalamazoo wastewater system

7 Duty To Mitigate

User shall take all reasonable steps to minimize or prevent any discharge which has the reasonable likelihood of adversely affecting human health, the environment, or the Kalamazoo wastewater system.

8 Need to Halt Or Reduce Activity Not A Defense

It shall not be a defense for the User in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the terms and conditions of this Individual Control Document, or any requirements set forth in an applicable law, ordinance, regulation or rule

9 Kalamazoo Reservation Of Rights

Nothing in this Individual Control Document shall be deemed to limit or otherwise waive the liability of User to the City of Kalamazoo under local, federal or state law (including common law), for damages, injury, loss, or other liability resulting from User's discharge to the Kalamazoo wastewater system. Nor shall any provision in this Individual Control Document be deemed to limit the ability of the City of Kalamazoo to take action, as necessary to enjoin or abate User's discharge.

K Notification Of Responsibilities Under The Clean Wate Act And Resource Conservation Recovery Act

User is hereby notified of its legal responsibility to comply with applicable pretreatment standards (See 40 CFR Chapter I Subchapter N), sections 204(b) and 405 of the Clean Water Act, and Subtitles C and D of the Resource Conservation and Recovery Act (See e.g., 40 CFR § 261 et seq.) This includes the duty to notify the City of Kalamazoo the U.S. Environmental Protection Agency, and the State of Michigan pursuant to 40 CFR § 403 12(p) of any discharge into Kalamazoo's treatment plant which, if otherwise disposed of, would be a hazardous waste under 40 CFR § 261

L Spill Prevention

User shall install any equipment or devices necessary to prevent any spillage or leakage of process solutions or chemicals from entering the wastewater system. Additionally, the User shall store bulk chemicals and toxic wastes in such a manner to prevent any accidental discharge to the wastewater system in the event of a spill.

M Slug Discharge Control Plan (If Applicable)

1 Submission Of Draft Plan

Specified Date Not Applicable

By date specified above, User shall submit a draft slug control plan to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities Such plan at a minimum, shall address the following elements

- a Description of discharge practices, including non-routine batch discharges,
- b Description of stored chemicals,
- Procedures for immediately notifying the Kalamazoo Department of Public Utilities of slug discharges, including any discharge that would violate a specific prohibition (see 40 CFR § 403 5(b)), with procedures for follow-up written notification within five (5) days,
- d Procedures as necessary to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents) and/or measures and equipment necessary for emergency response

2 Revision of Draft Plan

User shall revise its draft slug control plan in accordance with comments received from the City of Kalamazoo within thirty days, unless a longer time period is provided in writing by Kalamazoo

3 Compliance With Approved Plan

User shall comply with the slug control plan as approved, including any changes set forth by the Kalamazoo Department of Public Utilities

N Authorized Kalamazoo Representatives

The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate in responding to User's pretreatment obligations. These activities include, but are not limited to termination of service, enforcement and inspection.

O Severability

The provisions of this Individual Control Document are severable, and if any provision of this document or the application of any provision of this document to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this document, shall not be affected thereby

Wastewater Service

Individual Control Document Part III: Discharge Limitations, Monitoring Locations and Reporting

User Name

EPA-Allied Paper

Address

77 North Jackson Blvd, SE-5J

Chicago IL 60604

Phone Contact

(312) 886-0406

Mr Brad Stimple

Site Name Address US EPA-Allied Paper Allied Dewatering Lagoons

Kalamazoo MI

Phone Contact (312)886-0406 Mr Brad Stimple

A Discharge Limitations,

These limitations and sampling requirements apply to the discharge from your facility to the wastewater system at the designated monitoring location described in (2) below Please refer to the City of Kalamazoo Code, Chapter 28, (or the applicable ordinance of the municipality where the facility is located and Part III (C) below for prohibited discharge limitations

<u>Pollutants</u>	Daily Max	Monthly Average If applicable	<u>Unit</u>	Minimum Campling Frequency	Sample Type
BETX	15		mg/l	Weekly	GRAB
CADMIUM	40		ug/l	Weekly	GRAB
COPPER	2230		ug/l	Weekly	GRAB
CYANIDE	250		ug/l	Weekly	GRAB
LEAD	110		ug/l	Weekly	GRAB
MERCURY	PROHIBITED		ug/l	Weekly	GRAB
NICKEL	1590		ug/l	Weekly	GRAB
PCBs	PROHIBITED '		ug/l	every batch	GRAB
TOTAL CHROMIUM	4670		ug/l	Weekly	GRAB
PETROLEUM HYDROCARBON	100		mg/l	Weekly	GRAB
ZINC	5300		ug/l	Weekly	GRAB
рН	6 2-9 8		SU	Weekly	GRAB

B: Process-Specific Discharge "End-of-Process Lim

The following location is the designated End-of-Process monitoring location for the facility

Code APE Monitoring Location Description
Three tanks next to pretreatment system

C Discharge Prohibitions

User shall not cause interference or pass through, or discharge in violation of the specific prohibitions set forth in 40 CFR 403 5(b) or the prohibited discharge requirements set forth in the City of Kalamazoo Code (or the applicable ordinance of the municipality where the facility is located)

D Discharge Points and Monitoring Facilities

User may discharge nondomestic wastes into the Kalamazoo tareatment system only at the sampling locations identified in Part III (A) and (B) Alternate discharge or sampling points may only be used upon written approval from the Industrial Services Supervisor at th City of Kalamazoo. User shall maintain monitoring locations and associated equipment. User shall also install equipment or implement other verifiable techniques to measure flow User may be required, at the discretion of the City of Kalamazoo to install and maintain automatic sampling equipment.

- E Self-Monitoring And Reporting
- 1 Frequency and Sampling Requirements
- User shall perform the the following sampling and analyses: An adequate number of samples shall be collected to ensure that the process discharge equipment is operating properly and that the wastewater discharge does not violate limitations set forth in this Individual Control Document. At a minimum, samples shall be collected at least as frequently as specified in Part III (A) and (B) for all pollutants listed. For pollutants with a "grab" sample technique indicated, a minimum of four (4) grab samples must be used. All other samples must be 24 hour flow proportional composite samples where feasible. If flow proportional compositing is infeasible, samples may be obtained through time proportional composite sampling techniques.
- B Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken on a day when the regulated pollutants are likely to be present in their maximum concentration, including monitoring of batch discharges should such discharges occur.
- C All sampling and analyses shall be conducted according to EPA-approved methods set forth in 40 CFR § 136 or other validated procedures approved by the Director of Public Utilities
- 2 Reporting of Increased Monitoring Data

User may monitor more frequently than required by this Individual Control Document. If the User monitors any pollutant more frequently than required by this Individual Control Document using the procedures set forth in 40 CFR § 136, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the User's self-monitoring report.

3 Repeat Sampling When Violation Indicated

If sampling performed by the User indicates a violation, the User shall

- a Notify the City of Kalamazoo within 24 hours of becoming aware of the violation
- b Repeat sampling and analyses for the pollutant(s) in violation
- c Submit the results of the repeated analyses to the Industrial Services Supervisor within 30 days after becoming aware of the violation

AN ONE SEE

More than one resample may be required to establish a return to compliance.

4. Self-Monitoring Reports

Self-monitoring reports shall be submitted monthly. Reports for each period shall be due on the tenth of the month following the period. Reporting forms supplied by the City of Kalamazoo to the User, if applicable, shall be used and appropriately completed. At a minimum the reports shall contain:

- a. Average and maximum daily flows for the period.
- b. Results of all sampling performed by the User during the period.

Certification Statement I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5 Other User Specific Monitoring and Reporting Requirements

Monthly Flow Report Total monthly flow shall be reported to the Industrial Inspections Supervisor. The report shall be due each month by the 10th of the following month

Initial Self-Monitoring A minimum of one (1) sample shall be collected each week during the first six (6) weeks of discharge for all pollutants listed in Part III A 1 Initial Self-monitoring sample results must be included with the Monthly Flow Report for the respective month

PCB's Results Report All wastewater batches contained in the treatment tanks will be analyzed for PCB's and held until the sample results indicate the wastewater batch is in compliance with the City of Kalamazoo's PCB's discharge limit. After conformation, the wastewater batch can be discharged in a controlled manner. The PCB's sample results must be included with the Monthly Flow Report for the respective month.

F Averaging of Measurements

Calculations for limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Individual Control Document or in the applicable federal, state or local pretreatment standards

G Dilution Prohibition

Except where expressly authorized to do so by an applicable pretreatment standard or requirement, User shall not increase the use of process water, or in any other way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a pretreatment standard or requirement

H Combined Wastestream Formula

1 User To Derive Alternative Discharge Limits Using Combined Wastestream Formula

Where a regulated process wastestream is to be mixed prior to its treatment with wastewaters other than those generated by the regulated process the User shall derive alternative discharge limits for each regulated pollutant in each process wastestream pursuant to the combined wastestream formula set forth in 40 CFR § 403 6(e). This requirement does not apply to mixtures of regulated process wastestreams which have already been identified by the User to the City of Kalamazoo.

2 Alternative limits derived by the User shall not apply to the User until approved or modified in writing by the City of Kalamazoo User shall comply with the discharge limits set forth in Part III (A) and (B) until the City of Kalamazoo modifies the limits or approves a modification request

I Record-Keeping

User shall maintain records of monitoring of wastewater at its (1) end of pipe, (2) end of process, and (3) any other internal wastestream monitoring regardless if the User is otherwise required by this Individual Control Document to monitor its wastewater at such locations frequencies, or pollutant parameters. Records shall include

- 1 The dates exact location, method and time of sampling or measurements and the individual(s) who performed the sampling or measurements,
- The date(s) analyses were performed, the analytical techniques or methods used, the individual(s) who performed the analyses, and the results of such analyses

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part IV: Compliance Schedule

User Name Address EPA-Allied Paper

77 North Jackson Blvd , SE-5J

Chicago IL 60604

Phone Contact

(312) 886-0406 Mr Brad Stimple

Site Name Address US EPA-Allied Paper

77 North Jackson Blvd., SE-5J

Kalamazoo MI 49001

Phone Contact (312) 886-0406 Mr Brad Stimple

A. Action Required

ANY PERMITS OR APPROVALS WHICH MUST BE OBTAINED FROM OTHER GOVERNMENTAL AGENCIES ARE THE RESPONSIBILITY OF THE USER The City of Kalamazoo does not by its approval of any of the designs or installation of the plants and equipment, warrant or aver in any manner that User's implementation of such measures will result in compliance with User's pretreatment requirements. Notwithstanding any approval of such plans by the City of Kalamazoo, User remains solely responsible for compliance with the terms of this Individual Control Document and federal, state and local requirements.

B. Reporting

Reports of compliance or noncompliance with, or any progress reports on requirements set forth in Part IV Section I, above, shall be submitted to the City of Kalamazoo no later than 14 days following each schedule date. Reports shall, at a minimum, identify whether the User has complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the User to return to the established schedule. (40 CFR § 403 12(c))

C. Effect Of Compliance Schedule

1. Inclusion Of Compliance Schedule Discretionary

The City of Kalamazoo may amend this Individual Control Document, at its discretion, to include a compliance schedule to address any instances of noncompliance with a federal, state or local pretreatment requirement, including noncompliance with the terms and conditions set forth in this Individual Control Document. A compliance schedule may also be included to set forth reasonably expeditious milestones for complying with new federal, state or local requirements

2. Compliance With Schedule Milestones Not A Defense (If Applicable)

Compliance with the milestones set forth in Part IV, Section I, above, does not absolve the User from its legal obligations to comply with the requirements as otherwise set forth in this Individual Control Document or any applicable federal, state or local law, regulation, rule, ordinance or pretreatment requirement. Accordingly, it shall not be a defense to an enforcement action that the User complied with the milestones set forth above.

3. Compliance With Federal Categorical Standards

Compliance by existing sources with federal categorical pretreatment standards shall be within three (3) years

of the date the standard is effective unless a shorter compliance time is specified in the applicable subpart of 40 CFR Chapter I, Subchapter N. New sources shall meet all applicable pretreatment standards within the shortest feasible time not to exceed ninety (90) days. At a minimum, User shall submit to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, semi-annual notices (on the first day of the months of April and October) identifying specific actions taken to comply with such standards.

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part V⁻ Definitions

User Name

EPA-Allied Paper

Address

77 North Jackson Blvd , SE-5J

Chicago IL 60604

Phone Contact

(312) 886-0406 Mr Brad Stimple

Site Name Address US EPA-Allied Paper Allied Dewatering Lagoons Kalamazoo MI 49001

Phone Contact (312) 886-0406 Mr Brad Stimple

Except as provided below, terms set forth herein shall be defined as set forth in Kalamazoo Code § 28-1 or Wastewater Use Regulations If a term is not defined below or in the Kalamazoo Code or Wastewater Use Regulations, then it shall be defined as set forth in corresponding federal regulations (See, e.g. 40 CFR § 403 3)

- A Daily Maximum The maximum allowable discharge of a pollutant during a calendar day. Where daily maximum discharge limits are expressed in units of mass, the daily discharge is the total mass discharges over the course of the day. Where daily maximum limitations are expressed in terms of concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.
- B Domestic Waste Human waste and other waste related to personal or residential sanitation including hauled septage waste
- C Flow Proportional Composite Sample A sampling method which combines discrete aliquots of a sample collected over time based on the flow of the wastestream being sampled. The aliquots collected shall be at constant time intervals with the volume of each aliquot varying based upon the stream flow. Flow proportional samples can also be a combination of constant volume samples collected at time intervals which vary based on the stream flow.
- D Grab Sample A sample which is taken on a one-time basis with no regard to the flow of the wastestream and without consideration of time
- E Monthly Average The sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. If the pollutant concentration in any sample is less than the detection limit, a value of zero is used in calculating the monthly average concentration.
- F Non-Domestic Wastewater Wastewater that contains nondomestic waste including contaminated groundwater and leachate
- G Regulated Process Wastestream An industrial process wastestream regulated by a national categorical pretreatment standard. Such determination may be pollutant specific a wastestream from a process may be 'regulated" for one pollutant and "unregulated" for another.
- H Time Proportional Composite Sample A sampling method which combines discrete sample aliquots of constant volume collected at constant time intervals
- Unregulated Process Wastestream An industrial process wastestream that is not regulated by a national categorical pretreatment standard Such determination may be pollutant specific a wastestream from a process may be "regulated" for one pollutant and "unregulated" for another



U. S. Environmental Protection Agency

Region V Emergency Response Branch

BRAD STIMPLE

On-Scene Coordinator/Environmental Scientist

O

77 W. Jackson Blvd., HSE-5J Chicago, IL 60604

Office (312) 886-0406 24 Hour Emergency (312) 353-2318 Fax (312) 353-9176

Mr Demink, 5-27

LOT ME KNOW WHAT ADDITIONAL INFO MAY BB LEQUEED, THANKS

FOR YOUR HOLF.

BLAD STIMPLE

1

BASELINE MONITORING REPORT (BMR)

Control Authority: City of Kalamazoo - Department of Public Utilities

(In accordance with 40 CFR Part 403.12(b))

I.	IDENTIFYING INFO	RMATION: USEPA/CERCLA CLEANUP
	NAME OF FACILITY:	RMATION: VSEPA/CERCLA CLEANUP ALLIED PAPER (FORMER) - PORTHUE CAR
•	_	BLYANTMILL BOND ARCEA
	FACILITY ADDRESS:	PORTAGE CREEK BETWEEN ALCOTT ST
	-	AND CORK STRUET
	- CITY:	KALAMAZWO STATEMIZIP
	NAME (C) OF OWNER (C	
		: USTEPA/ALLIED PAPER 77 W. JACKSON BLUD SE-5J
	ADDRESS	: CH.CAGO FC 60604
	(1F D1FFERENT	DYRAD STIMPLE
	CITY	:STATEZIP
II.	LIST OF ENVIROMEN	TAL PERMITS:
ind hel per	icated above. Ple d (what they are	riromental permits held by or for the facility ease also indicate what type of permit(s) are for), who issued the permit(s) and when the plus the expiration date(s), if applicable, if necessary)
ΓΥΡΕ	OF PERMIT PERMIT	NUMBER ISSUED BY DATE ISSUED EXPIRES
	CERCLA CIE	THE U.S. ACE

III. DESCRIPTION OF OPERATIONS:

A.	Briefly describe below the nature of this facility's operations.
	Please use additional pages if necessary and attach any
	appropriate drawings, sketches or diagrams if needed to provide
	adequate details regarding these operations.
	A11-10 , 11 1 , 11
	Allied Paper is a defunct paper mill mour
•	
	owned by MILLERNIUM HOLDINGS Ime. The
	site is an operable unit of the larger

National Provides First site under CERCLA

Prown as: Allied Paper | Portage Creek |

Islamagno Rever Superfund Site. Vender an

Administrature agreement between USEPA and MHI,

USEPA will conduct a removal action funded by

MHI, in the Brigant Mell Pond area of the site. Water

generated from removal activities is. devalues excavation

ava, surprise vales, and Sevantium of excavated material, we

be pre-treated before descharge to the bandown district.

B. In the table below, detail the average rate of production along

OPERATION	AVERAGE	PRODUCTION	RATE	SIC CODE
DEWATEKING		7 F J B - A - C		
+ PRE-TREAT	·	~75,000	-150,000 DAY	CERCLA
				CLEAN-UP

PCB (TOTAL) IS PRIMARY CONTAMINANT & CONCORN.

with the appropriate SIC (Standard Industrial Classification) Code(s) for operation(s) carried out by this facility. Please attach a schematic process diagram indicating all discharge points to the sanitary sewer. Use additional pages if necessary.

IV. FLOW MEASUREMENT:

Please indicate below the measured average daily and maximum daily flows of all regulated processes and all other process flows necessary for the use of the Combined Wastesteam Formula (CWF - see 40 CFR Part 403.6(e)).

PROCESS (PL	EASE INDICATE NONREGULATED)	AVERAGE DAILY FLOW (INDICATE UNIT	
	TBD		
V. MEASUREME	NT OF POLLUTANTS	:	
processes deta sampling and a mass, where a from each re concentrations collected for operations. composite, gas collection.	ailed above. Panalysis identifapplicable) of egulated process (or mass) s such analyses s Please also indirab, etc)	reatment Standards Please indicate below ying the nature and regulated pollutants s. Both daily max shall be reported thall be representationate the type of same and the frequency sable laboratory	any results from concentration (or in the discharge amum and average and any samples we of normal daily aples collect (i.e. of the sample
APPLICABLE PRETREATMENT STANDARDS		* *	TYPE OF SAMPLING SAMPLE FREQUENCY
	(â)		

VI. CERTIFICATION:

This aspect of the submittal involves two (2) portions:

- Qualified Professional Certification; and,
- Authorized Representative Certification. 2)

Based upon the certification provided (i.e. compliance or noncompliance), submission of a proposed compliance schedule may be necessary. Please review 40 CFR Part 403.12 (b) (6) & (7) plus 403.12 (i) and (k) carefully prior to completing and signing in any designated areas below. Please note that there are strict requirements governing who is a Qualified Professional and Authorized Representative. A copy of the pertinent regulations is attached for reference.

Oualified Professional Certification:

1. COMPLIANCE CERTIFICATION

I am personally familiar with the operation(s) performed at the above-referenced facility and with wastewaters discharged from these operation(s). hereby certify the

(write in applicable Pretreatment Standards reference on the line above) are being met on a consistent basis.

Swd Scharl USEPA-REG. 5

Representative Firm

ON-SCENT CORRIGATOR 5-26-98
Date

BMR - PAGE 5

VI. CERTIFICATION (continued):

NONCOMPLIANCE CERTIFICATION

I am personally familiar with the operation(s) performed at the above-referenced facility and with the wastewater discharged from these operation(s). I certify that

(write in applicable Pretreatment Standards reference on the line above) are not being met on a consistent basis. A compliance schedule is enclosed with a compliance date no later than the date specified in the appropriate Pretreatment Standard or commencement of discharge to the sanitary sewer.

Drod Sto USEPA-REGS

Representative Firm

ON-SCENE COORDINATOR 5-16-98
Title

B. Authorized Representative Certification:

I have reviewed the above-referenced document and accompanying professional certification. Based upon inquiry of those individuals immediately responsible for obtaining the information reported therein, I believe that the submitted information is true, accurate and complete.

VII. COMPLIANCE SCHEDULE:

Based upon the reply to the Certification secion above, please complete the proposed compliance schedule detailed below as required. Please note that no more that nine (9) months can elapse between dates within the proposed compliance schedule and that written updates must be submitted to the Control Authority within fourteen (14) days of each date in the compliance schedule.

PROPOSED COMPLIANCE SCHEDULE

Compliance Task	Date	of	Completion
Process flow and source data verification			
Selection of alternatives and, if necessary, pretreatment studies and enginneering design submitted to Control Authority			
Construction and, or, implementation of selected alternatives, if necessary.		·	
Complete Construction and, or, implementation of selected alternatives, if necessary.			
Final Compliance Date			



FILE COPY

PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazoo Michigan 49007-2565 (616) 337-8157 Fax (616) 337-8699

September 25, 1998

Mr. Brad Stimple US EPA-Allied Paper 77 North Jackson Blvd., SE-5J Chicago, IL 60604

Dear Mr. Stimple:

The Individual Control Document (ICD), you have for the US EPA-Allied Paper site is accurate. The section Part III, B. specifies "Process-Specific Discharge "End-of-Process" Limitations. This section is applicable to categorical limitations only. There are no process specific limitations applicable for the US EPA-Allied Paper site.

The database used to generate this ICD did not print section Part III, B, because it was entered as "Not Applicable". A revised ICD has been generated manually to include section Part III. B.

The revised ICD reads:

B. <u>Process-Specific Discharge "End-of-Process" Limitations</u>
Not Applicable.

Please note that the ICD you currently possess is accurate except for the Section Part III. B. omission. Enclosed herewith, are pages 8 & 9 which have the correct revision. Please replace pages 8, 9a & 9b of the previous ICD with pages 8 & 9 enclosed.

Should you have any questions, please call me at (616)337-8686.

Sincerely,

Robert E. DeMink

Wastewater Superintendent

File File

Mr. Harold Blakemore, Jr., Roy F. Weston, Inc. Consultants

RED:dm/demink/epa-revi.son

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document
Part III: Discharge Limitations, Monitoring Locations and Reporting

User Name: EPA-Allied Paper

Address: 77 North Jackson Blvd., SE-5J

Chicago IL 60604

Phone: (312) 886-0406 Contact Mr. Brad Stimple

Site Name: US EPA-Allied Paper Address: Allied Dewatering Lagoons

Kalamazoo MI

Phone: (312)886-0406 Contact: Mr. Brad Stimple

A: Discharge Limitations,

1. These limitations and sampling requirements apply to the discharge from your facility to the wastewater system at the designated monitoring location described in (2) below. Please refer to the City of Kalamazoo Code, Chapter 28, (or the applicable ordinance of the municipality where the facility is located and Part III (C) below for prohibited discharge limitations.

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MERCURY	PROHIBITED		ug/l	Weekly	GRAB
NICKEL	1590		ug/l	Weekly	GRAB
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TOTAL CHROMIUM	4670		ug/l	Weekly	GRAB
PETROLEUM HYDROCARBON	100		mg/l	Weekly	GRAB
ZINC	5300		ug/i	Weekly	GRAB
pН	6.2-9.8		S.U.	Weekly	GRAB

2. The following location is the designated End-of-Pipe monitoring location for the facility.

Code APE **Monitoring Location Description**

Three tanks next to pretreatment system.

B <u>Process-Specific Discharge "End-of-Process" Limitation</u>

Not Applicable

C <u>Discharge Prohibitions</u>

User shall not cause interference or pass through, or discharge in violation of the specific prohibitions set forth in 40 CFR 403 5(b) or the prohibited discharge requirements set forth in the City of Kalamazoo Code (or the applicable ordinance of the municipality where the facility is located)

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E. Self-Monitoring And Reporting

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If sampling performed by the User indicates a violation, the User shall

- a Notify the City of Kalamazoo within 24 hours of becoming aware of the violation
- b Repeat sampling and analyses for the pollutant(s) in violation
- c Submit the results of the repeated analyses to the Industrial Services Supervisor within 30 days after becoming aware of the violation

More than one resample may be required to establish a return to compliance

4 Self-Monitoring Reports

Self-monitoring reports shall be submitted monthly Reports for each period shall be due on the tenth of the month following the period Reporting forms supplied by the City of Kalamazoo to the User, if applicable, shall be used and appropriately completed. At a minimum the reports shall contain

- a Average and maximum daily flows for the period
- b Results of all sampling performed by the User during the period



PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N Harrison Kalamazoo Michigan 49007-2565 (616) 337-8157 Fax (616) 337-8699

October 29, 1998

Harold Jack Blakemore, Jr.
Weston Managers Designers / Consultants

Hand Delievered

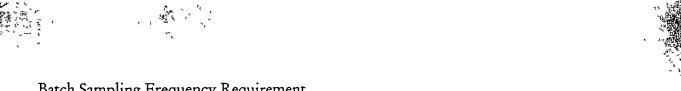
Dear Mr. Blakemore

In our phone conversation of October 28, 1998, you requested a letter clarifying the sampling requirements in the Individual Control Document for the Allied Lagoon / Bryant Mill Pond Site. Hopefully, the information given in this letter will better define the difference between the two sampling frequencies stated in the Individual Control Document Part III: Discharge Limitations, Monitoring Locations and Reporting.

To help with the clarification of the sample requirements, a "batch" will be defined as a single discharge event of a volume of water from a retention basin that the contents remain unchanged from the time of sampling to the halt of discharge from that retention basin to the sanitary sewer.

Weekly Sampling Frequency Requirement

- The Individual Control Document requires a sample to be collected once per week and analyzed for BETX (Benzene, Ethylbenzene, Toluene & Xylene), Cadmium, Copper, Cyanide, Lead, Mercury, Nickel, Total Chromium, Total Petroleum Hydrocarbon, Zinc and pH.
- A "week" shall be defined as a calendar week (Monday 0.00 Hours through Sunday 23:59 Hours).
- If more than one retention basin is discharged to the sanitary sewer during the calendar week, only the first retention basin discharged will be required to be sampled for the parameters which have a weekly sampling frequency as defined in the Individual Control Document.
- If no retention basins are discharged to the sanitary sewer during the calendar week, no samples will need to be collected for the parameters which have a weekly sampling frequency as defined in the Individual Control Document. Please note on the monthly report that no retention basins were discharge during this calendar week.



Batch Sampling Frequency Requirement

- The Individual Control Document requires a sample to be collected once per retention basin "batch" discharged to the sanitary sewer and analyzed for Polychlorinated Biphenols (PCBs).
- The contents of the retention basin shall not be discharged to the sanitary sewer until the analytical results for the sampled retention basin indicates that the contents of the retention basin are non-detect (<0.1 ppb) for PCBs.

If you have any questions or concerns on this issue, please feel free to contact me at (616) 337 -8706.

Best Regards,

Steve H. Rochoer Steven M. Rochow

Industrial Pretreatment Inspector



PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 337-8157 Fax (616) 337-8699

May 5, 1998

Mr. Brad Stimple U.S. EPA - Region V 77 West Jackson St., SE-5J Chicago, IL 60604

Dear Mr. Stimple:

Please complete the enclosed Baseline Monitoring Report, BMR, for the proposed discharge related to the Bryant Mill Pond Clean-up in Kalamazoo. A completed BMR is needed before an Individual Control Document, ICD, can be issued for the proposed discharge. Analytical requirements and monitoring frequency will be developed based on the information provided in the completed BMR.

Please expect to monitor this discharge for all City of Kalamazoo Local Limits monthly, to monitor for pollutants of concern weekly, and to monitor each batch discharge for PCBs. Monitoring parameters and/or frequency may be relaxed 6-8 weeks after the discharge begins dependant on the sample results, pretreatment system problems, etc. In addition, flow measurements will be needed to calculate a monthly sewer bill.

Enclosed is a table containing the City of Kalamazoo Wastewater Discharge Limitations.

Please call me with questions at (616) 337-8686 or Bob O'Day, Industrial Inspections Supervisor at (616) 337-8705.

Sincerely,

Robert E. DeMink

Wastewater Superintendent

Robert E. De Mich

c Sue Foune, Technical Services Manager Robert O'Day, Industrial Inspections Supervisor

City of Kalamazoo

INTER-OFFICE**MEMO**

To: IPP FILES - US EPA - ALLIED PAPER FILE

From: Bob O'Day, Industrial Inspections Supervisor

Date: August 14, 1998

Subject: US EPA - ALLIED PAPER ICD MODIFICATIONS

The above ICD has been manually modified. The ICD sent to industrial user contains the following modifications:

1) December 31, 1999 expiration date.

- 2) Sampling frequency from data base generated ICD for PCB's was changed to "every batch" on page 8.
- 3) Reporting requirements from the data base generated ICD was changed to "monthly" on page 9-2.

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document
Part III: Discharge Limitations, Monitoring Locations and Reporting

User Name:

EPA-Allied Paper

Address:

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Phone: Contact

(312) 886-0406

Mr. Brad Stimple

Site Name: Address:

US EPA-Allied Paper

Allied Dewatering Lagoons

Kalamazoo Mi

Phone: Contact:

(312)886-0406

Mr. Brad Stimple

A: Discharge Limitations,

These limitations and sampling requirements apply to the discharge from your facility to the wastewater system at
the designated monitoring location described in (2) below. Please refer to the City of Kalamazoo Code, Chapter 28,
(or the applicable ordinance of the municipality where the facility is located and Part III (C) below for prohibited
discharge limitations.

<u>Pollutants</u>	<u>Daily Max</u>	Monthly Average If applicable	<u>Unit</u>	Minimum Campling Frequency	<u>Sample</u> <u>Type</u>
BETX	15		mg/l	Weekly	GRAB
CADMIUM	40		ug/l	Weekly	GRAB
COPPER	2230		ug/l	Weekly	GRAB
CYANIDE	250		ug/l	Weekly	GRAB
LEAD	110		ug/l	Weekly	GRAB
MERCURY	PROHIBITED		ug/l	Weekly	GRAB
NICKEL	1590		ug/l	Weekly	GRAB
PCBs	PROHIBITED		ug/l	Every Batch	GRAB
TOTAL CHROMIUM	4670		ug/l	Weekly	GRAB
PETROLEUM HYDROCARBON	100		mg/l	Weekly	GRAB
ZINC	5300		ug/l	Weekly	GRAB
рН	6.2-9.8		S.U.	Weekly	GRAB

The following location is the designated End-of-Pipe monitoring location for the facility.

Code APE **Monitoring Location Description**

Three tanks next to pretreatment system.

B Process-Specific Discharge "End-of-Process" Limitation

Not Applicable

C <u>Discharge Prohibitions</u>

User shall not cause interference or pass through, or discharge in violation of the specific prohibitions set forth in 40 CFR 403 5(b) or the prohibited discharge requirements set forth in the City of Kalamazoo Code (or the applicable ordinance of the municipality where the facility is located)

D <u>Discharge Points and Monitoring Facilities</u>

User may discharge non-domestic wastes into the Kalamazoo tareatment system only at the sampling locations identified in Part III (A) and (B) Alternate discharge or sampling points may only be used upon written approval from the Industrial Services Supervisor at th City of Kalamazoo User shall maintain monitoring locations and associated equipment User shall also install equipment or implement other verifiable techniques to measure flow. User may be required, at the discretion of the City of Kalamazoo to install and maintain automatic sampling equipment.

E Self-Monitoring And Reporting

1 Frequency and Sampling Requirements

- a User shall perform the the following sampling and analyses. An adequate number of samples shall be collected to ensure that the process discharge equipment is operating properly and that the wastewater discharge does not violate limitations set forth in this Individual Control Document. At a minimum, samples shall be collected at least as frequently as specified in Part III (A) and (B) for all pollutants listed. For pollutants with a "grab" sample technique indicated, a minimum of four (4) grab samples must be used. All other samples must be 24 hour flow proportional composite samples where feasible. If flow proportional compositing is infeasible, samples may be obtained through time proportional composite sampling techniques.
- b Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken on a day when the regulated pollutants are likely to be present in their maximum concentration, including monitoring of batch discharges should such discharges occur.
- c All sampling and analyses shall be conducted according to EPA-approved methods set forth in 40 CFR § 136 or other validated procedures approved by the Director of Public Utilities

2 Reporting of Increased Monitoring Data

User may monitor more frequently than required by this Individual Control Document. If the User monitors any pollutant more frequently than required by this Individual Control Document using the procedures set forth in 40 CFR § 136, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the User's self-monitoring report

3 Repeat Sampling When Violation Indicated

If sampling performed by the User indicates a violation, the User shall

- a Notify the City of Kalamazoo within 24 hours of becoming aware of the violation
- b Repeat sampling and analyses for the pollutant(s) in violation
- Submit the results of the repeated analyses to the Industrial Services Supervisor within 30 days after becoming aware of the violation

More than one resample may be required to establish a return to compliance

4 Self-Monitoring Reports

Self-monitoring reports shall be submitted monthly Reports for each period shall be due on the tenth of the month following the period Reporting forms supplied by the City of Kalamazoo to the User, if applicable, shall be used and appropriately completed. At a minimum the reports shall contain

- a Average and maximum daily flows for the period
- b Results of all sampling performed by the User during the period

Reviewed by:

Date Completed: 12- 30-98

City of Kalamazoo **Industrial User Inspection Form**

Background Information:

EPA-Allied Paper

Mailing Address:

77 North Jackson Blvd., SE-5J Chicago IL 60604

Site Address:

Allied Dewatering Lagoons Kalamazoo MI 49001

Contact Person:

Mr. Brad Stimple

Phone: (312) 886-0406

Title:

On-Scene Coordinator/Environmental

Fax:

(312) 353-9176

Scientist

Inspection Information:

Inspector: Steve Rochow, IPP Inspector

Type of Inspection:

Unannounced

Inspection Date: 12/29/98

Inspection Time: 9:00:00 AM

Reason for Inspection:

New Company

Observations: Nature of Business: CERCLA clean-up

- 1.) EPA is remediating the Byrant Mill Pond site to clean-up the PCBs contained in the sediments. The EPA has taken over the old Millenium Holding structures for treatment of wastewater from dewatering sediments. Millenium Holding stop discharging water from the site the end of October 1998.
- 2.) EPA is using Weston Consultants to manage the Bryant Mill Pond project. The contact for Weston Consultants is Hal Blakemore. EPA has hired Bailey Excavation to removed the sediments from the pond and to bring in clean fill sand.

Notes:

EPA Consultant: Weston Consultants - contact Hal Blakemore

General Facility Information:

Description of Process(es) at facility inspected (see attachments if applicable):

Sediments from the Bryant Mill Pond are excavated and disposed into the old Allied Lagoon for dewatering. The water flows by gravity to lagoon #1 were the water is pumped to the treatment system. The water is stored in three 20,000 gallon pool (From the Millenium Holding Project) and polymer is introduced to separate out the solids. The supernate is sent to the treatment system and the solids are discharged to lagoon #4. The supernate is treated by pumping it through a 15-10 micron bag filter, then a 10-5 micron bag filter before traveling through two carbon columns and final through a 3-1 micron bag filter. The treated water is held in two 125,000 gallon retention basins until sample result confirm that PCBs is non-detect.

Number of Employees:

Sic Code(s):

Schedule of Operation: 12 Hours/Day 7 Days/Week

> 1 Shifts/Day 12 Months/Year

		GPD Avg	GPD Max	
	Total Wastewater Flow:	GPD Avg	GPD Max	
Types of Waste(s) d	lischarged to the system:			
Sanitary:	0	Deduct N	Meters:	
Process Water:	0			
Wash Water:				
Rinse Water:				
Cooling Water/NC	CW:			
Scrubber Water:				
How are waste flows	s measured? Based on volun	ne of retention l		
	hly average): Municipal:	0 ,,,,,		
Water Gapping (mone	y avoiagoji maincipai .[Well	: Other :	
ls this a Categorical Indus	trial User? No	Γ.	Monitoring Location CFR #	
Existing or new source :	N/A	t	APE	\neg
		_		
Is this a Significant Indust	rial User? Yes			
··· · · · · · · · · · · · · · · · · ·	tion: Potential for adversely a	iffecting the PO	TW's operation	
Is the Industrial Use	r subject to any of the following	1? Is curren	t system adequate/representativ	'e?
	•		•	
Combined Wastes Production-based	stream Formula : No Categorical Standards: No		Yes Yes	
,	_			
Total Toxic Organ	ic (TTO) Limits : No		Yes	
	ic (TTO) Limits: No ent Plans or TOMP: No		Yes Yes	
	ent Plans or TOMP : No			
Solvent Managem	ent Plans or TOMP : No IPDES Permit			
Solvent Managem Notes: Project has a N	ent Plans or TOMP : No IPDES Permit acility:	Type of		
Solvent Managem Notes: Project has a Newater Treatment Fa	ent Plans or TOMP: No IPDES Permit acility: e facility? Yes nt: Three clarifiers (pools) wit	h polymer to se	Yes	ter, 5 l
Solvent Managem Notes: Project has a Newater Treatment Falls there pretreatment at the Description of pretreatment Types of wastes treated:	ent Plans or TOMP: No IPDES Permit acility: e facility? Yes nt: Three clarifiers (pools) wit	th polymer to se micron bag filte ng	Pretreatment : Bato eparate solids, 15 micron bag filt er, two 125,000 gallon retention b	ter, 5 l
Solvent Managem Notes: Project has a Newater Treatment Falls there pretreatment at the Description of pretreatment Types of wastes treated:	ent Plans or TOMP : No IPDES Permit e facility: Three clarifiers (pools) wit filter, two carbon filters, 2 water from sediment dewateriass treatment system adequate	th polymer to se micron bag filte ng	Pretreatment : Bato eparate solids, 15 micron bag filt er, two 125,000 gallon retention b	ter, 5 l
Notes: Project has a Newater Treatment Falls there pretreatment at the Description of pretreatment Types of wastes treated: Are wastewaters that byparts	ent Plans or TOMP: No IPDES Permit e facility: Three clarifiers (pools) wit filter, two carbon filters, 2 water from sediment dewateri ass treatment system adequate system: 20	th polymer to se micron bag filte ng	Pretreatment : Batce eparate solids, 15 micron bag filter, two 125,000 gallon retention bag m spillage?	ter, 5 l
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Notes: Project has a Newater Treatment Falls there pretreatment at the Description of pretreatment (Sypes of wastes treated: Are wastewaters that bypa (Design flow for Treatment Are all units of system in some Are off the shelf stock reals there an O & M manual (Do an attached sheet plays the shelf stock reals wastewater treatment facility to the shelf sheet plays the shelf sheet plays the sheet	ent Plans or TOMP: No IPDES Permit e facility: e facility? Yes nt: Three clarifiers (pools) wit filter, two carbon filters, 2 water from sediment dewateri ass treatment system adequate system: service? eplacement parts available for control of the contr	th polymer to se micron bag filte ng ly protected fro critical compon- ls the of treatment a reatment proces	Pretreatment: Bato eparate solids, 15 micron bag filter, two 125,000 gallon retention be marked spillage? Is there a full-time operator? ents (pumps, probes, etc)? re potential for bypasses? dequacy and efficiency and a	ter, 5 I
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Are any	RCRA hazardous wastes ge	enerated?:	Yes]	<u>ls a Waste</u>	Hauler used?	No
	Hauler Nam	ne		Hauler I	D	Generator Number	
	Attach copies of any	/ wasta mai	nifosta from t	hie facility for th	o loot 12	months	 -J
	US EPA Number			ste from Nonsp			
,							
	Di	sposal Faci	lity			ID#	
Notes :	Sediments may contain PC	Bs					
		, •					
nical/M	/aste Storage Areas:	j					
Is there	Chemical/Waste storage on	site?	Yes	Are containe	ers clearly	/ labeled? :	Yes
_							
	Bulk Chemicals/Wastes or	n site (Quantity		pe of sto	rage	
Are inco	mpatibles stored separately	?					N/A
Are thes	e Chemicals/Wastes stored	within a sp	ill contained	area of the plant	:?		Yes
Are any	of these Chemicals/Wastes	on the Criti	cal Materials	List?			No
	On an attached sheet, prov	ide a sketcl	h of storage a	reas -\Sketch s	hould inc	lude locations of	
	Chemicals/Wastes within st		_	L 2 "			
Note	es:						
Prove	ntion/Containment:						
	litions at this facility require	a Saill Broy	untion Cont	ral and Countar	Manauraa	Broaram (SDCC) nor	40 CED
112, a P	ollution Incident Prevention uirements addressing sludg	Plan (PIPP)	per MDNR R	lule 5, or a Slug	Discharge	e Prevention Plan con	cerned
with req	unements addressing study	je discriary	es III 40 OFK	403.12(I) aliu sp	ecinc pro	mbigons in 40 CFR 40	No
Are Eme	rgency spill or discharge pr	ocedures p	osted for imr	nediate employe	e referen	ce?	Yes
Do the E	Emercency spill or discharge	e procedure	es include no	tification policie	s?		Yes
	To the Control Authority?	[Ye	es				
Т	o the Approval Authority?	Ye	es				
ls there s	secondary containment for r	naterials or	the Critical	Materials List?			N/A
	facility been responsible for				last inspe	ection date?	No
	When?						

Notes	:		· · · · · · · · · · · · · · · · · · ·		
ustrial	User Sampl	ling Procedures:			
Does the	Industrial Use	er Self-Monitor? : Yes		Are the results copied to POTW for IU files?	ſΥē
		the same as specified in Ir	ndividual Contr	ol Document?	Υe
	How differer				
Do KWRP	personnel moi	nitor in lieu of the Industry	for purposes	of Semi-annual Self Monitoring?	
Do	Self-monitorin	g results considerably diff	fer from IPP mo	onitoring results?	
Do	Self-monitorin	ng requirements cover all l	ocal limits and	if applicable, categorical parameters?	[7
Doe wo	es the IU have vuld not be cove	wastestreams that would hered by categorical or loca	nave significan Il limits?	t impact on POTW loadings that	N
	Explain:				
Are	sampling tech	nniques according to 40 C	FR Part 136 or	some other approved methods?	Ye
Are	all sample poi	ints and calculations appli	icable for enfor	cing end of process or end of pipe limitations	? <u>'Y</u>
Are	e sample locati	ions and type of sample th	e same as spe	cified in the ICD?	[Ye
ls t	he Metals sam	ple : Grab		Is the pH a grab sample :	ΓY
Wh	ere does the IL	J have labwork done?	Off site		
	Par	rameters done on-site		Parameters done off-site	
				MERCURY NICKEL PCBs TOTAL CHROMIUM ZINC PH	
Mar	of Off oito le	ob . IVABILLE TANK	·		
	me of Off-site la ntact person :	ab : KAR Laboratories, In [William Bouma, PH.]		Phone : (616) 381-9666	7
001	nact person .	(William Bodina, 111.1	<u></u>	\(\frac{107381-3000}{1}\)	J
Not	es:				
	Sampling	Pointe:			
L					
Are	sampling loca	itions in an Appropriate pl	ace to get repr	esentative samples of regulated streams? Yes	7
Ca	n we measure f	flow or do we have a verifi	able estimate o	of total flow to the sample point? Yes	ך 1
		nts accessible to both the			_
					_
	Indid APE	Three tanks next to pretre	Samplel		
	AFE	ishee talika hext to prett	sauncht system		
:					

Does IPP Sampling	g card indicate proper sampling location and flow measurement requirements? No	
Notes :		
Other I	Items:	
Has the Industrial	User submitted a Baseline Monitoring Report (BMR)?	10
Does the BMR incl	lude all the information required in 40 CFR 403.12(B)?	lo
Was the IU requi	ired to submit a BMR this reporting period?	10
	If yes, date BMR submitted:	一
Was the IU requir	ired to submit a 90 day Compliance report this reporting period?	10
	If yes, date 90 day compliance report submitted:	
Is the IU presently (under any Enforcement action by the Control Authority?	
Describe the physic the Industrial User:	cal characteristics of the watestream in the sanitary sewer which is emanating from:	n
Clear & Colorles	ess	
Does the IU's wast deterioration as it re	ste minimization effort show improvement, maintenance, or elates to procedures and monitoring? Maintenance	
Please elaborate :	PCBs	
How is the facility g	generally maintained? Good	
Is any of the informa	nation contained in this form confidential information?	
Attachment 1 :		
Attachment 2 :		
Attachment 3 : Attachment 4 :		
Attachment 5 :		
Items of Concern :	As of December 28, 1998 this project has not discharged to the sanitary sewer. The project has not been able to comply with the City of Kalamazoo's PCBs prohibition with a detection limit of 0.1 ppb. Matrix Interference has caused the analysis to have a detection limit above the 0.1 ppb. The project has used it's NPDES to discharge to Portage Creek. The State of Michigan allows for 0.1 ppb of the lowest detection level acheivable.	or

EPA-Allied Paper Summary of data from 10/01/98 to 3/31/2000

Sample Location ID: APE

Limits

	ветх	CN	Cd	Cr	Cu	Hg	Ni	PCBs	Pb	ТРН	Zn	рН
Daily TRC	15 18	250 300	40 48	4670 5604	2230 2676	0	1590 1908	0	110 132	100 140	5300 6360	6.2-9.8
Units	mg/f	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	ug/l	S.U.

Date	BETX	CN	Cd	Cr	Cu	Hg	Ni	PCBs	Pb	ТРН	Zn	рН
2/11/99 9:30:00 AM	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	20.0	8.3
2/12/99 7:00.00 AM								0.0				
2/12/99 9:00.00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	3.1	0.0	7.7
2/15/99 9:15:00 AM	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	80.0	8.0
2/16/99 9:00:00 AM	0.0	0.0	0.0	0.0	110.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9
2/18/99 11:45:00 AM								0.0				
2/22/99 10:20:00 AM	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	70.0	7.6
2/25/99 11:15:00 AM								0.0				
3/1/99 4.30:00 PM	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
3/3/99 1:30:00 PM								0.0				
3/12/99 7:45:00 AM								.1 ‡				
3/16/99 3:00:00 PM	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0	7.5
3/22/99 10:30:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	8.0
3/24/99 9-15:00 PM								0.0				
3/26/99 10:20:00 AM								0.0				
3/29/99 8:45:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 8
3/31/99 4:00:00 PM			<u> </u>	<u> </u>				0.0				
4/6/99 12:00.00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0,0	8.0
4/12/99 9:00:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
4/12/99 9:16.00 AM								0.0				
4/15/99 10:20:00 AM								0.0				
4/16/99 10:10:00 AM								0.0				
4/19/99 9:50:00 AM	0.0							0.0		0.0		7.8
4/20/99 2:00:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8
+ 9:05:09aA& Daily	violation	‡	Indicates TRC viol	ation				0.0				

EPA-Allied Paper Summary of data from 10/01/98 to 3/31/2000

Sample Location ID: APE

	BETX	CN	Cq	Cr	Cu	Hg	Ni	PCBs	Рь	ТРН	Zn	рН
4/23/99 3:00:00 PM								0.0				
4/26/99 8:30:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	7.7
4/27/99 8:50:00 AM								0.0				
4/29/99 3:50:00 PM								0.0				
4/30/99 7:50.00 AM								0.0				
5/3/99 7:30:00 AM								0.0				
5/3/99 9:00:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8
5/5/99 8:00:00 AM								0.0				
5/7/99 8.00:00 AM								0.0				
5/7/99 8:15:00 AM								0.0				
5/10/99 4:00:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	7.8
5/10/99 8:25:00 PM								0.0				
5/11/99 12:00:00 PM								0.0				
5/14/99 7 30:00 AM								0.0				
5/17/99 7-30:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	7.8
5/19/99 3:30:00 PM								0.0				
5/21/99 3:45:00 PM								0.0				
5/24/99 4:00:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
5/27/99 11:30:00 AM								0.0				
6/2/99 7:45:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8
6/4/99 1·30:00 PM								0.0				
6/9/99 2:45:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9
6/15/99 4:30:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	7.8
6/23/99 2:30 00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	8.0
6/28/99 4:30:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
7/2/99 8:30.00 AM								0.0				
7/12/99 12:00:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	7.8
7/13/99 12:00:00 PM	0.0											
7/15/99 3:00:00 PM								0.0				
7/22/99 8:00.00 AM								0.0				

EPA-Allied Paper Summary of data from 10/01/98 to 3/31/2000

Sample Location ID: APE

			,									
	ветх	СИ	Cd	Cr	Cu	Hg	Ni	PCBs	Pb	TPH	Zn	рН
7/27/99 2:30:00 PM								0.0				

8/17/1999

EPA-Allied Paper

Location: APE

1999	ветх	CN	Cd	Cr	Cu	Hg	Ni	PCBs	Pb	TPH	Zn	pН
# of samples in First Quarter (10/1 - 3/31)	9	9	9	9	9	9	9	16	9	9	9	9
% daily violation	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%
% TRC violation	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%
# of Compliant samples required:	0	0	0	0	0	0	0	0	0	0	0	0

1999	BETX	CN	Cd	Cr	Cu	Hg	Ni	PCBs	Pb	TPH	Zn	pН
# of samples in Second Quarter	23	22	22	22	22	22	22	49	22	23	22	23
(1/1 - 6/30) % daily violation	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%
% TRC violation	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%
# of Compliant samples required:	0	0	0	0	0	0	0	0	0	0	0	0

1999	BETX	CN	Cd	Cr	Cu	Hg	Ni	PCBs	Pb	TPH	Zn	рН
# of samples in Third Quarter (4/1 - 9/30) % daily violation % TRC violation # of Compliant samples required:	16 0% 0% 0	14 0% 0% 0	14 0% 0% 0	14 0% 0% 0	14 0% 0% 0	14 0% 0% 0	14 0% 0% 0	38 0% 0% 0	14 0% 0% 0	15 0% 0% 0	14 0% 0% 0	15 0% 0% 0

EPA-Allied Paper Location: APE

	BETX	CN	Cd	Cr	Cu	Hg	Ni	PCBs	Pb	TPH	Zn	рН
# of samples in Fourth Quarter	2	1	1	1	1	1	1	5	1	1	1	1
(7/1 - 12/31)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% daily violation % TRC violation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
# of Compliant samples required:	0	0	0	0	0	0	0	0	0	0	0	0

2000	BETX	CN	Cd	Cr	Cu	Hg	Ni	PCBs	Pb	TPH	Zn	рH
# of samples in First Quarter (10/1 - 3/31)	0	0	0	0	0	0	0	0	0	0	0	0
% daily violation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% TRC violation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
# of Compliant samples required:	0	0	0	0	0	0	0	0	0	0	0	0



PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazoo Michigan 49007 2565 (616) 337-8157 Fax (616) 337-8699

LETTER OF COMPLIANCE

September 14, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent monthly self-monitoring results from your facility's sanitary sewer monitoring point (APE) for August 1, 1999 - August 31, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Industrial Inspections Supervisor

c Sue Foune, Technical Services Manager

BOD dw/loc's \APE Allied Paper-EPA SM 8 99



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

acility: **EPA-Allied Paper**

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due:

9-10-99

Reporting Period: 8-1-99 Hora 8-31-99

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:

Pollutants	Daily Max.	Monthly Avg. Max.	<u>Unit</u>	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/l		GRAB
COPPER	2230		ug/I		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/l		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
рН	6.2-9.8		ຣ.ບ.		GRAB

N/R indicates Not Required

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Date and Time of Sampling:	Composite:
Grab:	Grab:
Grab:	Grab:
Note: If more than one batch is discharg the samples prior to analysis.	ed on the day of sampling, please sample each batch and composite
I certify under penalty of law that this document a	nd all attachments were prepared under my direction or supervision in accordance wit

<u>Flow Information:</u> Average Daily (GPD) Maximum Daily (GPD)

system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

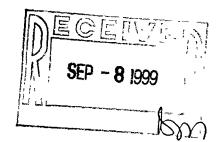
Contact:

Scene Coordinator

Date

Title:

Monthly Total flow 717,691.04 gallons



KAR Project No.: 994257

Date Reported: 08/31/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-071),

Sample ID: "WW-EFF-071"

Client: Roy F. Weston, Inc.

Sampled By: DME of Roy F. Weston

Sample Date: 8/30/1995

Sample Time: 1500

Date Received: 8/30/1999

Sample Type: aqueous

KAR Sample No.: 994257-01

Odinbie Illie: 1000						
Test	Resurt	Units of Measure	Matriod	Analyzed	Analyst	Comments
Preo ECO	Completed		EPA 3510	8/30/1999	SAS	
PÇB	See Dolaw		EPA 8082	8/31/1595	MSZ	
PCB Argelor 1016	<0.1	ug/L	EPA 8082	8/31/1999	MSZ	
PCB Araclar 1221	<0.1	ug/L	EPA 8082	8/21/1999	MSZ	
PCB Arociar 1232	<01_	ug/L	EP4 8082	8317555	MSZ	
PCB Aroclar 1242	<01	Jg/L	EPA 8082	8/31/1999	MS2	
PCE Arocior 1248	<01	ug/L	EPA 8082	8/31/7958	MSZ	
PCB Arociar 1254	<01	ugl	EPA 8082	8/31/1959	MSZ	
PCB Araciar 1260	<0.1	Jg/L	EPA 8082	8/31/1959	#SZ	
PCB Arociors, total	MA		EP.4 8082	8/31/1999	MSZ	
DC3 (pest/PC8 surr spk)	32	% spike recevery	EPA 8082	8/31/1999	MS2	
TCMX (SUIT SOK)	90	% sake recovery	EPA 8082	8/31/1999	MS7	

Discharge 95, 115.68 Gal. from Modutank # 2
on 8-31-99

KAR Project No.: 994257

Date Reported:

Client: Roy F. Weston, Inc.

08/31/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-071).

Sample ID: Laboratory Method Blank

Sampled By:

Date Received: 8/30/1999

Sample Date:

Sample Type. aqueous

Sample Time:

KAR Sample No.: 994257-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prao ECD	Completed		EPA 3510	8/30/1966	SAS	
PC8	See below		EPA 8082	8/31/1999	NSZ	
PCB Arcclor 1018	<01	Ug/1	EP4 8082	8/31/1555	MSZ	
PCB Arecler 1221	<01	JOA	EPA 8082	8/51/1999	MSZ	
PCB Arocior 1232	<01	ug/L	EPA 8082	8/31.7585	NSI	
PC8 Arcelor 1242	<01	ug/L	EPA 8082	8/31/1559	MSZ	
PCS Arocior 1248	<01	ugl	EPA 8082	8/31/1959	MSZ	
PCB Arcctor 1254	<01	ug/L	EPA 8082	8/31/1959	MSZ.	
PCB Areclar 1280	<01	ug/L	EPA 8082	8/31/1958	MSZ	
PCB Aroclars total	NA		EP4 8082	8/31/1999	MSZ	
DCB (pest/PCB surr spx)	59	% spike recovery	EPA 8082	8/31/1999	MSZ	
TCIAX ISUT SPK	15	% sp.ke recovery	EPA 8082	8/31/1999	MSZ	

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KAR Laboratories, Inc.

FROM : ROY F WESTON, INC. 08/27/99 15:25 To:Mr. Dsvid Ennis

PHONE NO. : From: Kathy Elosi Sep. 07 1999 02:50PM P5 k4Plabs 516 181-9698 Page 2/3

LABORATORY REPORT

KAR Project No.: 994204

Date Reported:

08/27/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-070).

Sample ID:

"WW-EFF-070"

Sampled By: DME of Roy F. Weston

Client: Roy F. Weston, Inc.

Sample Date : 8/25/1999 Sample Time: 1230

Date Received: 8/25/1999

Sample Type : aqueous

KAR Sample No.: 994204-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prap ECD	Completed		EPA 3510	8/26/1999	MJY	
PCB	See below		EPA 8082	8/27/1985	MSZ	
PCB Arcelor 1016	<0.1	JQ1	EPA 8082	8/27/1595	MSZ	
PCB Arcciar 1221	<01	Jal	EPA 8082	8/27/1595	MSZ	
PCB Arcolar 1232	<0.1	Jgil	EPA 8082	8/27/1999	MSZ	
PCB Arcelor 1242	<0.1	ug/L	EPA 8C82	8/27/1999	M:SZ	
PCB Arcelor 1248	<0.1	ug/L	EPA 8082	8/27/1999	MSZ	
PCB Arcciar 1254	<0.1	uqı	EPA 8082	8/27/1599	MSZ	
PCB Arcclar 1260	<0.1	ug1	EPA 8082	8/27/1999	MSZ	
PCB Arcciors, fotal	NA		EPA 8082	8/27/1999	MSZ	
DGB (pest/PCB surr spk)	77	% spike recovery	EPA 8082	8/27/1988	MS2	
TCMX (SUT SOIC	31	% soike recovery	EPA 8082	8/27/1985	MSZ	

Discharge 109,527.15 Gal. from Modutank #2 on 8-27-99

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KAR Laboratories, Inc.

Client: Roy F. Weston, Inc.

PHONE NO. : From:Kathy Blosl

Sep. 07 1999 02:51PM P6 kAFLacs 616 381-5693 Fage 3/3

LABORATORY REPORT

KAR Project No.: 994204

Date Reported: 08/27/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-070).

Sample ID : Laboratory Method Blank

Sampled By: Sample Date . Sample Time: Date Received: 8/26/1999 Sample Type: aqueous

KAR Sample No.: 994204-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo ECD	Completed		EPA 35'0	8/28/1999	MJY	
PCB	See below		EPA 8082	8/27/1999	MSZ	
PCB Arcciar 1016	<01	ug/L	EPA 8082	8/27/1559	MSZ	
PCB Arcciar 1221	<01	ug/L	EPA 8082	8/27/1999	N5Z	
PCB Arcelar 1232	<01	vg1	EPA 8082	8/27/1999	NSZ	
PCB Arociar 1242	<01	val	EPA 8082	8/27/1955	MSZ	
PCS Arcolar 1248	<01	ugh	EPA 8082	8/27/1555	NSZ	
PCB Araciar 1254	<01	ugh	EPA 8082	8/27/1599	MSZ	
PCB Arcelor 1280	<01	ugs	EPA 8082	8/27/1955	MS2	
PCB Arcciors total	NA		EPA 8082	8/27/1999	M.SZ	
DCB (pesyPCB sur spx)	73	% spike recevery	EP4 8082	8/27/1999	MSZ	
TCMX (sur sol)	34	% spike recovery	EP4 8082	8/27/1999	MSZ	

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KAR Laboratories, Inc. (618) 381-9666

KAR Project No.: 994025

Date Reported: 08/20/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-069).

Sample ID: "WW-EFF-069"

Client: Roy F. Weston, Inc.

Sampled By: DME of Roy F. Weston

50

2€

Sample Date : 8/17/1995

Sample Time: 1600

DCB (cestPCB sur spi)

TCMX (SUT Spx)

Ston Date Received: 8/17/1999
Sample Type: aqueous
KAR Sample No.: 994025-01

Result Units of Measure Analyzed Analyst Comments Method Tast Completed EPA 3510 BARMISSS SAS Prep ECD 8/19/1999 EPA 8082 **GMB** PCB See below ug/L EPA 8082 PCB Arccior 1016 <01 8/19/1999 GMB PCS Arcclor 1221 <01 JOA EPA 8082 engasss GMB PCE Arcolor 1232 <0.1 uq.2 EPA 8082 8/19/1999 GMB <01 €19/1999 GMB PCB Arccior 1242 JQ/L EPA 8082 PCB Arcelor 1248 <0.1 EPA 8082 81 911 898 GMB υg/L PCB Arcclor 1254 <01 EPA 8082 GMB ug/L 6/19/1999 < 0.1 EPA 8082 PCB Aroclar 1260 ugl 8/19/1988 PCB Arcciors total NA EPA 8082 8/19/1999 GMB

EPA 8082

EPA 8082

% spike recovery

% spike recovery

Discharge 121,056.32 Gal. from Modutant #2 on 8-20-99

8/19/1998 GMB

GMB

8/19/1999

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KAR Laboratories, Inc.

KAR Project No.: 994025

Client: Roy F. Weston, Inc.

Date Reported:

08/20/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-069).

Laboratory Method Blank

Sample ID: Sampled By:

Sample Date: Sample Time: Date Received: 8/17/1999

Sample Type: aqueous

KAR Sample No.: 994025-02

Test	Result	Units of Measure	DO/DeM	Analyzed	Analyst	Comments
Pres ECD	Completed		EPA 35'0	8/18/1998	\$45	
PCB	See below		EPA 8082	8/19/1995	GMB	
PCB Arcciar 1016	<01	ug/L	EPA 8082	8/19/1999	GMB	
PCB Araclar 1221	<01	Joh	EPA 8082	8/19/1999	GMB	
PCB Arcelor 1232	<0.7	vg/L	EPA 8082	8/19/1996	GMB	
PGB Arcclar 1242	<01	UQL	EPA 8082	8/19/1999	GMB	
PCB Arociar 1248	<01	ug/L	EPA 8082	8797999	GMS	
PCB Arcolor 1254	<0.1	UDL	EPA 8082	8/19/1999	GMB	
PC8 Araciar 1260	1 < 0.1	uq/L	EPA 8082	332 T, 0 T, 8	GMB	
PCB Arcciors, total	MA		EPA 8082	8/19/1959	G:4B	
DC3 (pest/PC3 sur spl)	78	% sp.ke recovery	EPA 8082	8/19/1855	GMB	
TCMX (SUT SOK)	31	% so ke recovery	EP4 8082	8/19/1999	GMB	

KAR Project No.: 993935

08/17/99 Date Reported:

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-068).

Sample ID: "WW-EFF-068"

Client: Roy F. Weston, Inc.

Sampled By: DME of Roy F. Weston

Sample Date : 8/12/1999 Sample Time: 1030

Date Received: 8/12/1999 Sample Type: **AQUECUS** KAR Sample No.: 993935-01

Test Result Units of Measure bortreM Analyzed Analyst Comments Free ECD Completed EPA 3510 8/13/1995 SAS PCB EPA 8082 876/1999 MSZ See ballow PCB Arocior 1018 EP4 8082 B/16,4555 MS2 <01 JQ/L 8/15/1955 PCB Arcclor 1221 <01 EPA 8082 MSZ 1:C.L EPA 8082 8M8M895 MSZ PCB Arcelor 1232 <01 JON EPA 8082 <01 8/16/1995 MSZ PCB Aroclar 1242 Jg/L EPA 8082 8/16/1999 MSZ PCB Araciar 1248 <07 Jal PCB Arcolar 1254 JQ/L EPA 8082 BM 8/1595 MSZ EPA 8082 MSZ PCB Arccior 1260 <01 ug/L 8/12/1599 NA EPA 8082 PCB Arcciars total 8757999 M.SZ DCB (post/PCB sur sok) % spike recovery EP4 8082 5₽ 5/16/1999 MSZ 25 EPA 8082 8/15/1599 MSZ TOMX (SUIT SOK) % spike recovery

> Discharged 132,585.49 Gal. from Modutant #1 on 8-17-99

Client: Roy F. Weston, Inc.

LABORATORY REPORT

KAR Project No.: 993935

Date Reported: 08/17/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-068).

Sample ID: Laboratory Method Blank

Sampled By:

Sample Date :

Date Received: 8/12/1999 Sample Type: aqueous

KAR Sample No.: 993935-02 Sample Time: Units of Measure Mathod Tast Result Analyzed Analyst Comments Pres ECD Completed EPA 3510 8737998 5AS PC8 See below EPA 8082 8/16/1999 MSZ c0.1 EPA 8082 PCB Arcciar 1016 ug/L 8/16/1595 MSZ EPA 8082 8/16/1995 PCB Arcclor 1221 -0.1 VQ.L PC8 Arcoor 1232 <01 υg/L EPA 8082 808 rans MSZ EPA 8082 5/16/1999 PCB Arcclar 1242 <01 MSZ **301** EPA 8082 PCB Aroclor 1248 <01 vg/L 8/18/1999 MSZ PCB Arctior 1254 <01 uol EPA 8082 8707999 MSZ PCB Arcciar 1260 <0.1 ug/L EP4 8082 8/16/1898 MSZ EPA 8082 PCB Arcciors total NA 8/16/1959 MSZ DCB (pest/PCB sur spk) 84 EPA 8082 6/16/1895 MSZ % spike recevery TCIAX (SLIT SOK) EPA 8082 35 % spike receivery 8/18/1999 NSZ

KAR Project No.: 993792

Client: Roy F. Weston, Inc.

Date Reported:

08/10/95

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-067).

Sample ID: "WW-EFF-067"

Sampled By: OGN of Roy F. Weston

Sample Date : 8/5/99

Sample Time: 1030

Date Received: 8/5/99

Sample Type: squeous

KAR Sample No.: 993792-01

Test	Result	Units of Measure	Method	Analyzed	Amaryst	Comments
Prep ECD	Completed		EPA 3510	8656	M_Y	
PCB	See below		EPA 8082	5/8/59	GMB	
PCB Arcciar 1016	<0.1	ugh	EPA 8082	8/5/66	GMB	
PCB Arcclar 1221	<01	ug/L	EPA 8082	8/8/99	GMB	
PCB Aroclar 1232	<0.1	ugh	EPA 8082	8/8/99	GMB	
PCB Arcclor 1242	<0.1	Jg.1_	EPA 8082	8/6/99	GMB	
PCB Arccior 1248	<0.1	ug/L	EPA 8082	8/5/55	GMB	
PCB Arcelor 1254	<01	ug/L	EPA 8082	8/6/95	GNB	
PCS Arccior 1260	<0.1	ug/L	EPA 8082	8/8/89	GM8	
PCB Arcciors, total	MA		EPA 8082	8/6/99	GMB	
DC& (pest/PCB surr spk)	€1	% spike recovery	EPA 8082	8/6/59	GMB	
TCMX (sur sok)	29	% spike recovery	EPA 8082	8/8/95	GMB	

Discharge 126,820.91 Gal. from Modutank #2

on 8-10-99

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KAR Project No.: 993792

Client: Roy F. Weston, Inc.

Date Reported:

08/10/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-067).

Sample ID: Laboratory Method Blank

Sampled By:

Date Received: 8/5/99 aqueous

Sample Date :

Sample Type:

Sample Time :				KAR	Sample No.	: 993792-02
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completed		EF4 3510	8/6/55	YLY.	
PC8	Sec below		EP.4 8082	8/6/99	GM8	
PCE Arcelor 1016	<01	ug.1	EPA 8082	8/6/55	GMB	
PCB Arcclar 1221	<01	ugiz	EPA 8082	5/6/99	GMB	
PCB Arcclor 1232	<01	ugA	EPA 8082	8/8/56	GMB	
FCB Araciar 1242	<0.1	ug.L	EPA 5082	5/6/99	GME	
PCB Arctice 1248	<0.1	ugA	EPA 8082	8/6/55	GMB	
PCB Arccior 1254	<01	ug1	EPA 8082	8/6/99	GMB	
PCB Arccior 1280	<01	ugl	EPA 8082	8/8.96	GMB	
PCB Arcciars, total	NA		EPA 8082	8/8/99	GMB	
DCB (postPCB sum spk)	74	% sp.ke recovery	EP4 8082	8/6/99	GMB	
אוסן TCIAX (Sur בקינ	38	% spike recovery	EPA 808*	8/6/59	GMB	

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KAR Project No.: 993676

Client: Roy F. Weston, Inc.

Date Reported:

08/04/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-066).

Sample ID: "WW-EFF-066"

Sampled By: DME of Roy F. Weston

Sample Date: 7/30/99 Sample Time: 1230

Date Received: 7/30/99

Sample Type: aqueous

KAR Sample No.: 993676-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments			
Pres ECD	Completed		EPA 3510	8255	545				
FCB Arcelor 1018	<0.1	ugiL	EPA 8082	8/3/99	MSZ				
PCB Arcciar 1231	<0.1	ug.1	EPA 8032	8/3/99	MSZ				
PCB Argolar 1237	<0.1	ug/L	EPA 8082	8/3/99	MSZ				
PCB_Arcelor 1242	<0.1	ugs	EPA 8082	8/3/59	NSZ				
PCB Arcciar 1248	<0.1	ugs	EPA 8082	8/3/59	MSZ				
PCS Arcolar 1254	<0.1	JQ1	EPA 8082	8/3.59	MSZ				
PCB Arcelor 1260	<0.1	UGA	EPA 8082	೬ನ.89	MS2				
PCB Arectors, total	NA		EPA 8082	8/3/95	MSZ				
DCB (pest/FCB sur spk)	82	% soike recevery	EPA 8082	8/3/99	MSZ				
TCMX (sur sold	34	% so:ke recovery	EPA 8082	8/3/95	MSZ				

Discharged 132,585.49 Gal. from Modutant #1 on 8-5-99

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Client: Roy F. Weston, Inc.

LABORATORY REPORT

KAR Project No.: 993676

08/04/99 Date Reported:

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-086).

Sample ID: Laboratory Method Blank

<01

NA

£7

20

ual

% spike recovery

% spike recovery

Sampled By:

Sample Date :

Date Received : 7/30/99 Sample Type: **equeous** KAR Sample No.: 993676-02

8/3/99 MSZ

MS.

MSZ

MSZ

8/3/66

8/3/99

8/3/99

Sample Time:

PCB Arcclor 1250

PC8 Arcclors, total

TCIAX ISUT SOK

DCB (pest/PCB surr sok)

Units of Measure Method Analyzed Analyst Comments Test Result Pres ECD EPA 35'0 8/2/99 Completed EPA 8082 PCB Arcela 1016 <01 8/3/99 MSZ EPA 8082 MSZ PCB Arcclor 1221 <0.1 υg/L 8/3/55 EPA 8082 8/3/55 MSZ PCB Arcclor 1232 <0.1 40.1 8/3/56 MSZ EPA 8082 PCB Arcclor 1242 <0 1 UQ/L PCB Arcclar 1248 EP4 8082 8/3/55 MSZ <01 ug/L <01 EPA 8082 8/3/96 MSZ PCB Arcclar 1254 ug/L

EP4 8082

EPA 8082

EP4 8082

EPA 8082

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PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Hariison Kalamazoo Michigan 49007 2565 (616) 337-8157 Fax (616) 337-8699

LETTER OF COMPLIANCE

September 14, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent monthly self-monitoring results from your facility's sanitary sewer monitoring point (APE) for September 1, 1999 - September 30, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Industrial Inspections Supervisor

c Sue Foune, Technical Services Manager File

BOD:dw/loc's\APE Allied Paper-EPA SM 9-99



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

/acility: **EPA-Allied Paper**

77 North Jackson Blvd., SE-5J

Chicago IL 60604

10 - 10 - 99 Due:

Reporting Period: 9-1-99 thru 9-30-99

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:

Pollutants	Daily Max.	Monthly Avg. Max.	<u>Unit</u>	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/i		GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/i		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/i		GRAB
NICKEL	1590		ug/l		_ GRAB
PCBs	Prohibited		ug/l		_ GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
pH	6.2-9.8		S.U.		GRAB

N/P	indicates	Not Re	auired

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Date and Time of Sampling:	Composite:
Grab:	Grab:
Grab:	Grab:
Note: If more than one batch is discharged on the	day of sampling, please sample each batch and composite

Flow Information: _____ Average Daily (GPD) _____ Maximum Daily (GPD)

the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Title:

cene Coordinator

Monthly Total flow 51,881.28 gallons

KAR Project No.: 994347

Date Reported: 09/03/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-072).

Sample ID: "WW-EFF-072"

Client: Roy F. Weston, Inc.

Sampled By: EJF of Roy F. Weston

Sample Date: 9/2/1999

Sample Time: 1846

Date Received: 9/2/1999

Sample Type:

aqueous

KAR Sample No.: \$94347-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Conspens
Pres. SCD	Completed		EPA 3510	9/3/1969	SAS	
PCB	See below		EPA 8082	9371999	MSZ	
PCB Arociar 1015	<0.1	ug/L	EPA 8082	9/3/1599	MSZ	
PGB Arocior 1221	<0.1	navr	EPA 8082	5/3/1999	MSZ	
PCB Araclar 1232	<01	ugit	EPA 8082	9/3/1999	MSZ	
PCB Arccior 1242	<0.1	ugA	EPA 8082	\$2371999	MSZ	
PCS Aroclar 1248	<0.1	ug/L	EPA 8082	5/3/1995	MSZ	
PCB Arcelor 1254	<0.1	ug/L	EPA 8082	9/3/1999	MSZ	
PCB Aroclar 1250	40.1	ug/L	EPA 8082	5/3/1595	MSZ	
PC5 Aroclors, total	NA		EPA 8082	5/3/1995	MSZ	
DCE (pest/PCB sur spk)	€1	% spike recovery	EPA 8082	9/3/1888	MSZ	
TCIAX (SUT SOK)	33	% spike recovery	EPA 8082	\$/3/1999	MSZ	

Discharged 51,881.28 Gal. from Modutank #2 on 9-7-99

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KAR Project No.: 994347

Client: Roy F. Weston, Inc.

Date Reported:

09/03/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-072).

Sample ID: Laboratory Method Blank

Sampled By:

Sample Date : Sample Time : Date Received: 8/2/1999

Sample Type: KAR Sample No.: 994347-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Pred ECD	Completed		EPA 35'0	\$3/1889	SAS	
PCB	See below		EPA 8082	9/3/1999	MSZ	
PCB Arccior 1016	<01	UGAL	EPA 8082	9/3/1568	MSZ	
PCB Arociar 1221	<01	ugA	EPA 8082	9/3/1995	MSZ	
PCB Arcelor 1232	<0.1	ug/L	EPA 8082	5/3/1988	MSZ	
PCB Arccior 1242	<01	ugA	EPA 8082	\$/3/1999	MSZ	
PCB Arcelor 1248	<0 1	ug/L	EPA 8082	S/3MSSS	MSZ	
PCB Arccior 1254	<01	JQL	EPA 8082	9/3/1999	MSZ	
PGB Arcelor 1260	i <0 1	ual	EPA 8082	9/3/1988	WSZ	
PCS Arcciors, total	NA		EPA 8082	5/3/1599	MSZ	
DCB (pest/PCB surr spk)	76	% spike recevery	EPA 8082	\$/3/1888	NSZ	
TOTAX (SUT SOC)	35	% so ke recovery	EPA 8082	5/3/1999	MSZ	

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PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazoo Michigan 49007 2565 (616) 337 8157 Fax (616) 337-8699

September 9, 1999

Mr. Rodney Almond EPA - Allied Paper 266 East Alcott Kalamazoo, Michigan 49001

Dear Mr. Almond:

Attached is the sewer bill for the period May 1999 - August 1999. This bill is based on the following monthly flow data:

Month	Gallons
May	1,452,737
June	743,632
July	753,720
August	717,961
Total	3,668,050
Total Cubic Meters	13,884

The discharge from your facility is billed at the rate of \$0.327 per cubic meter.

Please call me at 337-8705 with any questions.

Sincerely,

Robert C. O'Day

Industrial Inspections Supervisor

BOD dm/O'Day/EPA Sewer Bill 5-99 - 8-99

MAKE CHECK PAYABLE TO: CITY OF KALAMAZOO TREASURER PAYABLE AT: 415 STOCKBRIDGE, KALAMAZOO, MI 49001-2898

PRACTICE HOME ESCAPE PLANS. A GOOD PLAN COULD SAVE YOUR LIFE PLEASE TEST YOUR DETECTORS ONCE A MONTH AND CHANGE YOUR BATTERY ONCE A YEAR.

VARNUM, RIDDERING ET AL P.O. BOX 352 RE: MILLENIUM INORGANIC CHEM. GRAND RAPIDS, MI 49501-0352



Current Billings Due Date	Total Due
10/11/99	4,542.82
	Amount Enclosed \$

DI-HMHOLD01

CYC 10

PLEASE RETURN THIS PORTION WITH PAYMENT T.O. PLEASE MAIL UPPER PORTION AND PAYMENT TO: DEPARTMENT OF PUBLIC UTILITIES 415 STOCKBRIDGE, KALAMAZOO, MI 49001-2898

NAME VARNUM, RIDDERING ET				ACCOUNT NUMBER DI-		
SERVICE #	CONSUMPTION		SERVICE TYPE	SERVICE TYPE		
29	13,884.0	М3	DEWATERING INCITY	@	0.32700	4,542.82

PREVIOUS PRINCIPAL BALANCE

0.00

Billing For: MAY, JUNE, JULY, AUGUST 1999

Any Payments Applied After The Billing Date Of

09-10-99

Are Not Included

PAY ANY PAST DUE AMOUNT NOW 1% interest will be added to this bill if not paid by 10/11/99



MAIL UPPER PORTION WITH PAYMENT TO:



DEPARTMENT OF PUBLIC UTILITIES 415 STOCKBRIDGE AVENUE KALAMAZOO, MI 49001-2898



PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazoo Michigan 49007-2565 (616) 337-8699 Fax (616) 337-8699

LETTER OF COMPLIANCE

August 17, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent monthly self-monitoring results from your facility's sanitary sewer monitoring point (APE) for July 1, 1999 - July 31, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Industrial Inspections Supervisor

Robito C iday

c Sue Foune, Technical Services Manager File

BOD:dw/loc's\APE Allied Paper-EPA SM 7-99

$LOC, LOV \& \ QQ \ LETTER \ REQUEST \ FORM$

FACILITY NAME: EPA-Allied Lagron Contact Person: Brad Stingle			DATE: 8/16/99					
CONTACT PERS	ON: Brad St.	mple	Inspector:	Kochow				
☐ Copy:								
	Inspector for Review tions:							
Type of Lea	<u>iter Needed</u>							
☐ LOV LETTE	ER (-1 = compliance	monitoring / -	2 = self-monitor	ing) (check appro	opriate box)			
□ BETX-	-1 □ BETX-2	□ Cd-1	□ Cd-2	□ Cn-1	□ Cn-2			
□ Cn-3**	* □ Cr-1	□ Cr-2	□ Cu-1	☐ Cu-2	□ Hg-1			
□ Hg-1A	* □ Hg-2	☐ Hg-2A*	☐ Hg-3**	□ Ni-1	□ Ni-2			
□ Pb-I	☐ Pb-2	□ PCB-1	□ PCB-2	☐ PCB-3***	□ pH-1			
□ pH-2	☐ pH2-Cont	□ pH-3**	☐ TPH-1	☐ TPH-2	☐ TPH-3**			
□ Zn-1	□ Zn-2	□ SNC	□ Non-Comp)				
	NT(S):			Date:				
	ance schedule equired LOV letter V w/samples required							
☑ <u>Loc Lette</u>	ER							
☑ LOC-2 □ LOC-3 □ LOC-4 □ LOC-5	(Compliance Monitoring) (Self-Monitoring) (Groundwater Reme (Special Monitoring) (Resampling)	ediation Project	,					
Monitoring Pon	NT(S): <u>APE</u>		Da ²	TE: Month	offuly			
Q/Q LETTE	R							
MONITORING POIL TO BE APPLIED TO	NT:) WHAT MONTH'S BILI	.?	DATE:					



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

acility: **EPA-Allied Paper**

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due: August 10, 1999

Reporting Period: July 1-31, 1999

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:

Pollutants	Daily Max.	Monthly Avg. Max.	<u>Unit</u>	Results	Sample Type
BETX	15		mg/l		_ GRAB
CADMIUM	40		ug/l		GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/i		GRAB
NICKEL	1590		ug/l		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/i		GRAB
рН	6.2-9.8		s.u.		GRAB

N/R indicates Not Required

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Maximum Daily (GPD)

Date and Time of Sampling:	Composite:
Grab:	Grab:
Grab:	Grab:
Note: If more than one batch is discharged	on the day of sampling, please sample each batch and comp

Average Daily (GPD)

the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Flow Information:

Contact:

Title:

US EPA PENON. On-Scene Coordinator

Monthly Total flow 753,719.69 gallons

AUG | 1 1999

KAR Project No.: 993064

Date Reported:

07/06/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-060).

Sample ID:

"WW-EFF-060"

Sampled By: OME of Roy F. Weston

Client: Roy F. Weston, Inc.

Sample Date: 6/28/1999 Sample Time: 1630

Date Received: 6/28/1999

Sample Type: aqueous

KAR Sample No.; 993054-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo hc	Campletea		EPA 245 2	7/2/1985	MTM	
Prep metals	Completed		EPA 3033,200 x	6/30/1999	мтм	
Cadmium total	<5	ug/L	EPA 200 7	7/1/1595	PML	
Chromium, total	<10	ug/L	EPA 200 7	7/1999	PYIL	
Copper total	<20	ugiL	EPA 200 7	7/1/1886	PML	
Lead total by ICP	<50	ug/L	EPA 200 7	7/1/1888	PHIL	
Mercury, total low level	<02	ugl	EPA 245 2	7/2/1988	мтм	
Nickel total	<20	п д л	EPA 200 T	7/1/1599	PML	
Zinc totai	<10	uq1.	EPA 200 7	7/1/1555	PHIL	
Cyaride, totai	<5	ug/L	EPA 335 2	7/5/7599	JMS	
Gravmetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	7/1/1999	MCB	
PH	80	SU	EPA 150 1	5/28/1998	MCS	
MDNR Scar. 2	See below		EPA 624	6/29/1995	SLB	
Prep VOA	Completed		EPA 624	5/29/1999	CLE	
Berzene	<1	עסת	EPA 624	6/29/1555	CLB	
Ethvicenzene	<1	Jal	EPA 624	8/29/1999	SLB	
M-ero/or p-xylene	<1	ug/L	EPA 624	6/29/1555	JLB (
O-Xviene	<1	uz1	EPA 624	6/29/1999	SLB	
Taluena	<7	ual	EPA 624	5/29/1555	JLB	
Pres ECD	Completed		EPA 35'0	7/1/1599	V.Y	
PCB Aroclar 1016	<01	ug/L	EPA 8082	7/2/1999	MSZ	
PCB Aroclar 1221	<01	ugil	EPA 8082	7/2/1855	¥SZ	
PCB Arcelor 1232	<0.1	ug/L	EPA 8082	7/2/1555	MS2	
PCB Arctior 1242	<01	ug/L	EPA 8082	7/2/1989	NSZ	
PCB Arcelor 1248	<01	ug/L	EPA 8082	7/2/1555	HS2	
PCB Aracler 1254	<01	ug1_	EPA 8082	7/2/1555	NSZ	
PCB Aroclar 1260	<01	ug/L	EPA 8082	7/2/1998	MSZ	
PCB Arcciors, total	NA		EPA 8082	7/2/1999	NSZ	
12DCA-D4 (sur spk)	107	% sp.ke recovery	EPA 824	6/29/1988	JLB	
EFB (sun sex)	112	% spike recovery	EPA 824	5/29/1599	CLB .	
Taluene-D8 (surt sok)	97	% spike recovery	EPA 824	6/29/1598	عاد	
DCB (pest/PCB sur spk)	95	% spike recovery	EPA 8052	7/2/1555	MSZ	
TCMX (SUT SPA)	44	% spike receivery	EPA 8062	7/2/1995	NSZ	

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Page 2

out the written consent of Roy F Weston, Inc.

132, 585.49 gal.

discharged on 7-6-99

KAR Laboratories, Inc.

(616) 381.8666 from Modulank #1

KAR Project No.:

993064

Client: Roy F. Weston, Inc.

Date Reported:

07/06/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-060).

Sample ID: Blank

Sampled By:

Sample Date :

Sample Time :

Date Received: 6/28/1909

Sample Type : aqueous

KAR Sample No.: 993054-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo Hg	Completed		EPA 245.2	7/2/1999	MTM	
Preo, metals	Completed		EPA 30xx 200 x	6/30/1999	MTM	
Cadmium total	<5	ugl	EPA 200 7	7/1/988	PML	
Chromium, talel	<10	ug/L	EPA 200 7	7/1/1995	PML	
Copper tomi	<20	ugl	EPA 200.7	7/1/1966	PML	
Lead total by 'CP	<50	ugh	EPA 200 7	7/1/1999	PML	
Mercury, total low level	<02	ug1	EPA 245 2	7/2/1699	MTM	
Nickel totel	<20	ugl	EPA 200.7	7/1/1999	PML	
Zinc total	<10	ug/L	EPA 200 7	7/1/695	PML	
Cyenide Ictal	<.5	ugh	EPA 335.2	7/5/1998	JMS	
Gravimetic TPH (SGT-EM)	∢ 5	mol	EPA '661	7/1/1899	MCB	
MDNR Scan 2	See below		EPA 524	6/29/1599	CLB	
Prep VOA	Completed		EPA 624	6/29/1996	<u>5L9</u>	
Eenzana	<1	uat	EPA 524	6/29/1999	DLB	
Ethylberzene	41	ugh	EPA 624	6/29/1995	DLB	
M-end/or p-xylene	<1	ugi	EPA 624	6/29/1988	DLB	
0-Xylene	<1	ugl	EPA 624	8/29/1999	DLB	
Toluene	<1	uqL	EPA 624	6/29/1888	CLE	
Prep ECD	Completed		EPA 3510	71/1968	И.У	
PCB Arcclor 1016	<01	ugl	EPA 8082	7/2/1559	MSZ	
PC8 Arcelor 1221	<01	ugh	EPA 8082	7/2M955	MSZ	
PCB Arccior 1232	<01	ug/L	EPA 8082	7/2/1999	MSZ	
PCB Arociar 1242	<0.1	ug/L	EP4 8082	7/2M995	MSZ	
PCB Arcclor 1248	<01	ug1_	EPA 8082	7/2/1999	MSZ	
PCB Arcelor 1254	<01	ug/L	EPA 8082	7/2/1888	MSZ	
PC8 Acciar 1260	<01	VOL	EPA 8082	7/2/1859	NSZ	
PCB Arcclors, total	NA		EPA 8082	7/2/1595	M.SZ	
20CA-D4 (SUT SPK)	106	% spike recovery	EP4 624	6/29/1999	DLE	
FB (sur spk)	117	% sp ke recevery	EPA 524	6/29/1899	DLB	
Tcluene-08 (surt sok)	98	% spike recevery	EPA 624	8/29/1555		
DCB (pest/PCB sur spx)	103	% sp ke recovery	EPA 8082	7/2/1999	MSZ	
TCMX (sur sox)	34	% so ke recovery	1 EPA 8082	7/2/1556	NSZ	

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KAR Project No.: 993143

Date Reported:

07/08/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-061).

Sample ID: "WW-EFF-061"

Sampled By: DME of Roy F. Weston

Client: Roy F. Weston, Inc.

Date Received: 7/2/99

Sample Date : 7/2/99

Sample Type:

aqueous

Sample Time: 0830

KAR Sample No.: 983143-01

Test	Result	Units of Measure	Metrod	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 3510	7/6/99	SAS	
PCS Aroclor 1016	<01	ugs	EPA 8082	7/7/99	MSZ	
PCB Aroclor 1221	<0.1	ug/L	EPA 8082	7/7/89	MSZ	
PCB Aroclor 1232	<0,1	ua/L	EPA 8082	7/7/99	MSZ	
PCB Aroclar 1242	<0.1	ug/L	EPA 8082	7/7/99	MSZ	
PCB Arociar 1248	<01	ugl	EPA 8082	7/7/99	MSZ	
PCB Aroclar 1254	<0.1	ug.1	EPA 8082	7/7/99	MSZ	
PCB Arocior 1260	<0.1	ug/L	EPA 8082	7/7/89	MSZ	
PCB Arcclors, total	NA		EPA 8082	7/7/98	MSZ	
DCB (pest/PCB surr spic)	90	% spike recovery	EPA 8082	7/7/99	MSZ	
TCMX (sur spk)	32	% spike recovery	EPA 8082	7/7/99	MSZ	

121,056.32 gal. discharged on 7-8-99 from Modutank #2

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KAR Project No.: 993143

Client: Roy F. Weston, Inc.

Date Reported:

07/08/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-061).

Sample ID:

Blank

Sampled By:

Sample Date: Assessed Times

Date Received: 7/2/99

Sample Type: aqueous

KAR Sample No : 993143-02

Sample Time :				•	- Cu::/p:c //G.	. 993/43-02
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 35:0	7/6/99	SAS	
PCB Aroclar 1016	<01	ugl	EPA 8082	7/7/99	MSZ	
PCB Arocior 1221	<0.1	ugz	EPA 8082	7/7/89	MSZ	
PCB Araclar 1232	<01	ugl	EPA 8082	7/7/89	MSZ	
PCB Aroclar 1242	<0.1	ugl	EPA 8082	7/7/99	MS2	
PCB Aroclor 1248	<01	ug/L	EPA 8082	7/7/99	MSZ	
PCB Aroclor 1254	<0.1	ug/L	EPA 8082	7/7/68	MSZ	
PCB Aroclor 1250	<0.1	ug/L	EPA 8082	7/7/39	MSZ	
PCB Arcclors, total	NA		EPA 8082	7/7/89	MSZ	
DCB (pest/PCB sun spk)	104	% spike recovery	EPA 8082	7/7/99	MSZ	
TCMX (sum spk)	27	% spike recovery	EPA 8082	7/7/99	MS2	

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KAR Project No.:

993289

Client: Roy F. Weston, Inc.

Date Reported:

07/15/99

Project Description: Analysis of two samples from Kalamazoo River Superfund (WW-EFF-

062).

Sample ID: "WW-EFF-062, 7/12/99"

Sample Date: 7/12/1999

Sampled By: DME of Roy F. Weston

Sample Time: 1200

Date Received: 7/12/1999 Sample Type: aqueous KAR Sample No.: 993289-01

Test	Result	Units of Measure	Method	Anaiyzed	Analyst	Comments
Prep Hg	Correlated		EPA 245 2	7/12/1999	MTM	
Preo metals	Completed		EPA 30xx 200 x	7/13/1999	MTM	
Cadmum, total	<5	ug.1	EPA 6010B	7/14/1988	PML	
Chromium, total	<10	ug/L	EPA 60'0B	7/14/1999	PML	
Copper total	<20	vaz	EPA 60'08	7/14/1988	PML	
Lead total by ICP	<50	ug/L	EPA 60108	7/14/1999	PML	
Mercury, total low level	<0.5	ug/L	EPA 7470A	7/13/1955	CBL	
Nickei totai	<25	ug/L	EPA 50108	7/14/1958	PML	
Zinc, total	10	ug/L	EPA 60'08	7/14/1999	PML	
Cyenide <u>icta</u> ,	<5	UQ.1	EPA 335 2	7/13/1999	JMS	
Gravimenic TPH (SGT-hEM)	<5	mg/L	EPA 1664	7/13/1999	MC8	
PH	7.8	SU	EPA 150 1	7/12/1999	мсв	
Pres ECD	Completed		EPA 36:0	7/13/1999	MJY	
PCB Arcelor 1016	<01	ug.1	EPA 8082	7/14/1988	MSZ	
PCB Aroclor 1221	<01	ug/L	EPA 8082	7/14/1995	MSZ	
PCB Arcelor 1232	<01	ug/L	EPA 8082	7/12/1998	M.S.Z	
PCB Aroclor 1242	<0.1	ugs	EPA 8082	7/14/1989	MSZ	
PCB Arccior 1248	<0.1	ug1	EPA 8082	7/14/1995	MSZ	
PCB Araclar 1254	<01	ug/L	EPA 8082	7/14/1999	MSZ	
PCB Arccior 1260	<01	ugh	EPA 8082	7/14/1559	MSZ	
PCB Arcciors, total	NA		EPA 8082	7/14/1995	MSZ	
DC8 (pest/FC8 surr spk)	74	% so ke recovery	EPA 8082	7/14/1559	MSZ	
TCIAX ISLIT SOK)	30	% spike recevery	EPA 8082	7/14/1559	MSZ	

119,615.17 gal discharged on 7-16-99 from Modutank #1

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07/15/99

LABORATORY REPORT

KAR Project No.: 993289

Client: Roy F. Weston, Inc.

Date Reported:

Project Description: Analysis of two samples from Kalamazoo River Superfund (WW-EFF-

062).

Sample ID: "WW-EFF-062, 7/13/99"

Sample By: DME of Roy F. Weston

Date Received: 7/13/1999

Sample Date: 7/13/1999

Sample Type: aqueous

Sample Date: 7/13/1999 Sample Type: aqueous
Sample Time: KAR Sample No.: 993289-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
MDNR Scan 2	See below		EP4 524	7/13/1999	DLB	
Pres VOA	Completed		EPA 624	7/13/1999	DLB	
<u> Eenzene</u>	<1	ugh	EP4 624	7/13/1999	DLB	
Ethyibanzana	<1	ugh	EPA 624	7/13/1999	CLB	
M-grd/or p-xylene	<1	uq1	EPA 624	7/13/1999	DLB	
0-Xylene	<1	ugh	EPA 824	7/13/1998	DLB	
Тсіцеле	<1	ug/L	EPA 624	7/13/1586	DLB	
12DCA-D4 (surr spk)	102	% spike recovery	EPA 624	7/13/1999	CLB	
EFB (surt spk)	108	% spike recovery	EPA 624	7/13/1999	CLB	
Taluene-D8 (surr sok)	27	% spike recovery	EPA 524	7/13/1999	DLB	

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KAR Project No.: 993289

Client: Roy F. Weston, Inc. Date Reported: 07/16/99

Project Description: Analysis of two samples from Kalamazoo River Superfund (WW-EFF-

062).

Sample ID: Blank

Sample By: Date Received: 7/12/1999

Sample Date: Sample Type: aqueous

Sample Time: KAR Sample No.: 993289-03

Test Result Units of Measure Method Analysed Analysed Comments

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep Hg	Correleted		EPA 245 2	7/12/1999	MTM	
Preo metals	Completed		EPA 30xx, 200 x	7/13/1955	MTM	
Cadmium total	<5	ugr	EPA 8010B	7/14/1555	PML	
Çirəmium, latel	<10	4Q/L	EPA 60'0B	7/14/1999	PML	
Copper total	<20	ug/L	EPA 60'08	7/14/1969	PML	_
Lesa total, by ICP	<50	ug/L	EPA 60-08	7/14/1595	PML	
Mercury, total low level	<02	ugl	EPA 7470A	7/13/1999	CBL	
Nickel total	<25	νg/L	EPA 6010B	7/14/1993	PML	
Zinc total	<10	ug/L	EPA 6010B	7/14/1999	PML	
Cyanide Iotai	<5	uq/L	EPA 335 2	7/13/1999	JMS	
Grevinstic TPH (SGT-HEM)	<5	mc/L	EPA '664	7/13/1999	MCB	
MDNR Scar. 2	See below		EPA 524	7/13/1999	DLB	
Pro VOA	Completed		EPA 624	7/13/1998	DLS	
eriene	<٠	UQL	EP4 624	7/13/1999	CLE	
inyibenzene	<5	ugi	EPA 624	7/13/1995	DLB	
M-and/or p-xylene		JQ.1	EPA 624	7/13/1999	DLB	
O-Xylone	< 1	ug/L	EPA 624	7/13/1995	DLB	
Tcluene	<1	uo/L	EPA 624	7/13/1959	CLB	
9780 ECD	Completes		EPA 35'0	7/13/1996	MJY	
PCB Arccior 1016	<01	ug1_	EP4 8082	7/14/1989	MSZ	
PCE Aroclar 1221	<01	ug/L	EPA 8082	7/14/1555	MSZ	
PCB Arcelor 1232	<0.1	VQ1	EPA 8082	7/14/1999	MSZ	
PCB Arcclar 1242	40 ⁴	Ug/L	EPA 8082	7/14/1995	MSZ	
PCS Aroclor 1248	<01	ugl	EPA 8082	7/14/1999	MSZ	
PCB Aroclor 1254	<01	ug,1	EPA 8082	77:471988	MS2	
PCB Arccial 1260	<01	nav_	EPA 8082	7/14/1999	₩SZ	
PCB Arcclors total	IIA		EPA 8082	7/14/1988	MSZ	
12DCA-D4 (SUIT SPK)	10C	% so se recovery	EPA 624	7/13/1999	DIB	
EFE (sun spk)	1110	% so he recevery	EPA 624	7/13/1988	DLB	
Tcluene-D8 (sur sok)	98	% spike recovery	EP4 824	7/13/1989	DLB	
DCB (pest/PCB sur spk)	97	% spike recovery	EPA 8082	7/14/1999	MSZ	
TCMX (sur spk)	27	% spike recovery	EPA 8082	7/14/1995	WSZ	

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KAR Project No.: 993364

07/20/99 Date Reported:

Client: Roy F. Weston, Inc.

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-063).

Sample ID: "WW-EFF-063"

Sampled By: DME of Roy F. Weston

Sample Date: 7.15/99

Sample Time: 1500

Date Received: 7/15/99

Sample Type : aquecus

KAR Sample No.: 993364-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	7/16/98	MJY	
PCB Aroclor 1018	<01	ug/L	EPA 8082	7/16/99	MSZ	
PCB Aroclar 1221	<0.1	ug/L	EPA 8082	7/18/95	MSZ	
PCB Aroclor 1232	<01	ug/L	EPA 8082	7/16/89	MSZ	
PCB Aroclor 1242	<01	ug/L	EPA 8082	7/16/99	MSZ	
PCB Aroctor 1248	<01	ug/L	EPA 8082	7/16/99	MSZ	
PC8 Aroclar 1254	<0.1	ug/L	EP4 8082	7/16/39	MS2	
PCB Aroclor 1260	1<01	ugl	EPA 6082	7/16/95	MSZ	·
PCB Arociors, total	NA		EPA 8082	7/16/98	MSZ	
DCB (DBSVPCB SUIT SOK)	83	% spike recovery	EPA 8082	7/16/99	MSZ	
TCMX (sur spik)	41	% spike recovery	EPA 8082	7/18/99	MSZ	

123,938.61 gal. discharged on 7-20-99 from Modutank #2

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KARLaboratories, Inc. (616) 381-9666

Aug. 11 1999 06:56PM P20

FROM : ROY F WESTON, INC.

LABORATORY REPORT

KAR Project No.: 993364

Client: Roy F. Weston, Inc.

Date Reported:

07/20/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-063).

Sample ID: Blank

Sampled By :

Sample Date:

Date Received: 7/15/99 Sample Type:

อสุของบร

KAR Sample No.: 993364-02

Sample Time:		- Police	Dample 140.	. 333304-02		
Test	Result	Units of Measure	Mathod	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3510	7/18/99	MJY	
PCB Aroclar 1016	<0.1	ugi	EPA 8082	7/16/99	MSZ	
PCB Aroclar 1221	<01	Jg/L	EPA 8082	7/16/59	MSZ	
PCB Arcclar 1232	<0.1	vg/L	EPA 8082	7/16/99	MSZ	
PCB Aroclor 1242	<0.1	ugiL	EPA 8082	7/16/99	MSZ	
PCB Arccior 1248	<01	ug/L	EPA 8082	7/16/95	MSZ	
PCB Arcclor 1254	<0.1	ugl	EPA 8082	7/15/95	MSZ	
PCB Arocior 1260	<01	ug/L	EPA 8082	7/16/99	MSZ	
PCB Aroclors, total	MA		EPA 8082	7/16/96	MSZ	
DCB (pest/PCB surr spir)	100	% spike recovery	EPA 8082	7/10/99	MSZ	
TCMX (sur spk)	42	% spike recovery	EPA 8082	7/18/99	MSZ	

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KARLaboratories, Inc. (616) 381-9666

KAR Project No.: 993490

Client: Roy F. Weston, Inc. Date Reported: 07/27/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-064).

Sample ID: Blank

Sampled By :

Sample Date: Sample Time: Date Received: 7/22/1989

aqueous

Sample Type: KAR Sample No.: 993490-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prop. SCD	Completed		EPA 3510	7/23/1999	YUM	
PCB Aroclar 1016	<0.1	ug/L	EPA 8082	7/26/1999	MSZ	
PCB Aroclar 1221	<0.1	ug/L	EPA 8082	7/26/1999	MSZ	
PCB Aroclor 1232	<0.1	va1	EPA 8082	7/26/1999	MSZ	
PCB Arociar 1242	<0.1	Ug/L	EPA 8082	7/26/1999	MSZ	
PCB Araclar 1248	<0.1	val	EPA 8082	7/26/1999	MSZ	
PCB Aroclor 1254	<0.1	ugi	EPA 8082	7/26/1999	MSZ	
PCB Aroclor 1280	<g.1< td=""><td>2g/L</td><td>EPA 8082</td><td>7/26/1989</td><td>MSZ</td><td></td></g.1<>	2g/L	EPA 8082	7/26/1989	MSZ	
PCB Aroclors, total	NA		EPA 8082	7/26/1999	MSZ	
DCB (past/PCB surr spk)	95	% spike recovery	EPA 8082	7/26/1999	MSZ	
TCMX (surt spk)	30	% spike recovery	EPA 8082	7/26/1988	MSZ	

123,938.61 gal.

discharged on 7-27-99

from Modutant # 1

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KAR Project No.: 993490

Client: Roy F. Weston, Inc.

Date Reported :

07/27/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-064).

Sample ID : "WW-EFF-064"

Sampled By: DME of Roy F. Weston, Inc. Sample Date: 7/22/1999

Date Received: 7/22/1999 aqueous Sample Type:

Sample Time: 0800

KAR Sample No.: 993490-01

Test	Result	Units of Measure	Method	Analyzed	Analysi	Comments
Prep ECD	Completed		EPA 3510	7/23/1999	MUY	
PCB Aroclor 1016	<0.1	ug/L	EPA 8082	7/26/1989	MSZ	
PCB Aroclor 1221	<01	val	EPA 8082	7/25/1999	MSZ	
PCB Arccior 1232	<01	UOL	EPA 8082	7/26/1999	MSZ	
PCB Arociar 1242	<01	vg/L	EPA 8082	7/26/1899	MSZ	
PCB Arocior 1248	<01	υσΛ	EPA 8082	7/25/1999	MSZ	
PCB Arcelor 1254	<01	ug/L	EPA 8082	7/25/1999	MSZ	
PCB Araclar 1260	<01	ug/L	EPA 8082	7/26/1999	MSZ	
PCB Arociars, total	NA		EPA 8082	7/26/1989	MSZ	
DC8 (pest/PC8 surr spk)	97	% spike recovery	EPA 8082	7/26/1998	MSZ	
TCMX (sur spk)	44	% spike recovery	EPA 8082	7/26,7589	MSZ	

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KAR Project No.: 993573

Date Reported:

07/30/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-065).

Sample ID: "WW-EFF-065"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date: 7/27/99

Sample Time: 1430

Date Received: 7/27/99

Sample Type:

\$QU0CUS

KAR Sample No.: 993573-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completes		EPA 3510	7/28/99	SAS	
PCB Arcclor 1016	<01	ug/L	EPA 8082	7/29/99	MSZ	
PCB Arcolar 1221	<01	vgl	EPA 8082	7/29/98	MSZ	
PCB Aroclar 1232	<0 1	ugil	EPA 8082	7/29/99	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8082	7/29/99	MSZ	
PGB Arccior 1248	<01	ugiL	EPA 8082	7/29/89	MSZ	
PCB Arcelar 1254	<0.1	ug1_	EPA 8082	7/29/86	MSZ	
PCB Arcciar 1280	<01	ug1	EPA 8082	7/29/99	MSZ	
PCB Arociars, total	NA		EPA 8082	7/29/98	MSZ	
DCB (pest/PCB surr spk)	91	% solke recovery	EPA 8082	7/29/99	MSZ	
TCMX (surt spk)	39	% spike recovery	EPA 8082	7/29/55	MSZ	

132,585.49 gal. discharged on 7-30-99 from Modutan K #2

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KAR Project No.: 993573

Client: Roy F. Weston, Inc.

Date Reported:

07/30/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-065).

Sample ID: Blank

Sampled By:

Sample Date :

Date Received: 7/27/99

Sample Type: squeous

Sample Time :		KAR Sample No.: 993573-02				
Test	Result	Units of Measure	Method	Analyzed	Analysi	Correnents
Press, ECO	Completed		EPA 3510	7/28/99	545	
PCB Arcclar 1016	<01	ug/L	EPA 8082	7/29/99	MSZ	
PC8 Arocior 1221	<01	ug/L	EPA 8082	7/29/99	MSZ	
PCB Arccior 1232	<01	yo1	EPA 8082	7/29/55	MSZ	
PCB Arocior 1242	<01	ug/L	EPA 8082	7/29/99	MS2	
PCB Aroclor 1248	<0.1	ug/L	EPA 8082	7/29/59	MSZ	
PCB Aroclar 1254	<01	ugi	EPA 8082	7/20/86	MSZ	
PC8 Arcelor 1260	<01	ug/L	EPA 8082	7/29/99	MSZ	
PCB Arociors, total	NA		EPA 8082	7/29/89	MSZ	
DCB (pest/PCB surr spk)	36	% spike recovery	EPA 8082	7/29/99	MSZ	
TCMX (sur spk)	36	% spike recovery	EPA 8082	7/29/99	MSZ	

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PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 337-8157 Fax (616) 337-8699

LETTER OF COMPLIANCE

August 17, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent monthly self-monitoring results from your facility's sanitary sewer monitoring point (APE) for June 1, 1999 - June 30, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Industrial Inspections Supervisor

Robert C OTan

c Sue Foune, Technical Services Manager File

BOD:dw/loc's\APE Allied Paper-EPA SM 6-99

LOC, LOV & QQ LETTER REQUEST FORM FACILITY NAME: EPA-Allied Lagoon DATE: 8/16/99 CONTACT PERSON: Brad Himple INSPECTOR: Rochow □ Copy: ☐ Return draft to Inspector for Review ☐ Special Instructions: Type of Letter Needed \square LOV LETTER (-1 = compliance monitoring / -2 = self-monitoring) (check appropriate box) □ BETX-1 □ BETX-2 □ Cd-1 □ Cn-1 □ Cn-2 □ Cd-2 □ Cn-3** ☐ Cr-1 □ Cr-2 Cu-1 □ Cu-2 ☐ Hg-1 ☐ Hg-1A* ☐ Hg-2 ☐ Hg-2A* ☐ Hg-3** □ Ni-1 □ Ni-2 □ Pb-1 □ Pb-2 □ PCB-1 □ PCB-2 □ PCB-3*** □ pH-1 □ pH-2 □ pH2-Cont □ pH-3** ☐ TPH-1 ☐ TPH-2 ☐ TPH-3** □ Zn-1 □ Zn-2 □ SNC ☐ Non-Comp MONITORING POINT(S):______DATE:_____ LEVEL OF VIOLATION: * Letter w/compliance schedule ** No resamples required LOV letter *** Resample LOV w/samples required LOC LETTER ☐ LOC-1 (Compliance Monitoring) LOC-2 (Self-Monitoring) ☐ LOC-3 (Groundwater Remediation Project) ☐ LOC-4 (Special Monitoring) ☐ LOC-5 (Resampling) MONITORING POINT(S): APE DATE: Month of June O/O LETTER

MONITORING POINT:_____

TO BE APPLIED TO WHAT MONTH'S BILL?



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

acility: **EPA-Allied Paper**

77 North Jackson Blvd., SE-5J

Chicago IL 60604

July 10, 1999 Due:

Reporting Period: June 1 - 30, 1999

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:

Pollutants	Daily Max.	Monthly Avg. Max.	<u>Unit</u>	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/l		GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/l		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
рН	6.2-9.8		S.U.		GRAB

N/R indicates Not Required

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Flow Information:	Average Daily (GPD) Maximum Daily (GPD)	
Date and Time of Sampling:	Composite:	
Grab:	Grab:	
Grab:	Grab:	
Note: If more than one batch is disc	charged on the day of eampling, please sample each hatch and ea	

lote: If more than one batch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Title:

Scene Coordinator

Monthly Total flow 743,631.78 gallons

AUG 1 2 1999

KAR Project No.: 992515

Date Reported: 06/03/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-055).

Sample ID: Blank

Client: Roy F. Weston, Inc.

Sampled By: Sample Date : Date Received: 6/2/1999 Sample Type: aqueous KAR Sample No.: 992515-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prao hg	Completed	Ť	EPA 245.2	627589	PML	
Pres metals	Completed		EPA 30xx,200 x	8/2/1998	CBL	
Cadmium total	1 < 5	va2	EPA 200 7	6/2/1595	PML	
Chromium, lotal	<10	vo.L	EPA 200 7	6/2/1999	PML	
Copper total	<20	Jg/L	EPA 200 7	621966	PML	
Lead total, by 'CP	<50	ual	EPA 200 7	6/2/1955	PML	
Mercury, total law level	<0.2	ugil	EPA 7470A	6/3/1999	DBL	
Vickel total	<20	ug/L_	EPA 200 7	6/2/1999	PML	
Zinc, total	<10	UeAL	EP4 200.7	6/2/1999	PML	
Cyanide, mtai	<5	ug/L	EPA 335 2	6/2/1995	JMS	
Grawmetric TPH (\$GT-Ein)	1<5	ma/L	EPA 1664	6/2/1999	MCB	
MDNR Scan 2	See below		EP4 624	6/2/1989	DLB	
o VOA	Completed		EPA 624	6/2/1999	DLB	
≥rzene	<1	UGAL	EPA 624	6/2/1999	DLB	
thylbenzene	<:	vg/L	EPA 624	6/2/1999	CLB	
M-and/or p-xviene	<1	UOL	EPA 624	6/2/1999	DLB	
0-Xylene	1 < 1	ugs	EPA 624	8/2/1955	CLB	
Icluene	<1	ug/L	EPA 524	6/2/1999	CLB	
Pres ECD	Completed		EP4 35'0	6/2/1999	S4S	
PCB Arccior 1016	<01	ugiL	EPA 8082	6/3/1995	MSZ	
PCB Arcclar 1221	1<01	ug/L	EPA 8082	6/3/1959	MSZ	
PCB Arcelor 1232	1<01	JOL	EPA 8082	6/3/1555	MSZ	
POB Araciar 1242	1 < 0 1	ug.1	EP4 8082	6/3/1555	MSZ	
PCB Arcciar 1248	<01	val	EPA 8082	6/3/1999	MSZ	
PCB Arcolar 1254	<01	ug/L	EPA 8082	8/3/1955	MSZ	
PCB Aroclar 1260	1<01	uq1	EP4 8082	6/3/1559	MSZ	
CB Arcciors total	MA		EPA 8052	6/3/1999	MSZ	
2DCA-C4 (SUT Spk)	92	% sp ke recovery	EPA 624	8/2/1999	DLB	
FB (sur sok)	111€	% spike recovery	EPA 624	6/2/1999	518	
cluene-D8 (surt sok)	25	% spike recovery	EPA 624	6/2/1955	DLB	
CB (past/PCB sur sp<)	88	% spike recovery	EP4 8082	8/3/1999	MSZ	
TCMX (SLIT SOK)	41	% soike recovery	EPA 8082	6/3/1559	MSZ	

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KAR Laboratories, Inc. (615) 381-8666

Page 3

KAR Project No.: 992515

Date Reported: 06/03/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-055).

Sample ID: "WW-EFF-055"

Client: Roy F. Weston, Inc.

Sampled By: NA of Roy F. Weston

Sample Date: 6/2/1999 Sample Time: 0748

Date Received : 6/2/1999 Sample Type: aqueous KAR Sample No.: 892515-01

Result Units of Measure Method Analyzed Analyst Comments Test EPA 245 2 5/21999 PML Pres he Completed EPA 3011,200 x Completed 6/2/1999 Pres metais EPA 200 7 5/2/1988 Cedmium total <5 ug/L 6/2/1595 <10 EPA 2007 Caromium total uch <20 EPA 200 7 6/27899 PMI. Copper total 1912 PML EPA 200 7 627999 Lead total by ICP <50 NOT EPA 7470A <02 ug/L 6/3/1885 CBL Mercury total low level <20 EPA 2007 Nickel total ug/L 6/2/1999 EP4 200 7 Zinc, total_ <10 uq/L 6/2/1599 PML EPA 335 2 6/2/1999 Cyaride, total <5 JMS Gravmetic TPH (SGT-EM) EPA 1664 <5 6/2/1999 MCB mg/. 7 à SU EPA 150 1 6211999 MC8 EP4 624 6/2/1989 IDNR Scan 2 See below Pres. VCA 6/2/1999 Completed EPA 624 DLB <1 EPA 824 627555 CLB Berzens Jal Elhyibenzene < 1 ug/L EPA 824 6271555 CLB EPA 824 M-and/or p-xylene < 5 ugl 6/2/1999 CLB FPA 824 < 5 6/2/1969 O-Xylene Ug/L ٠, EPA 624 6/2/1555 CLB ug/L *Taluene* EPA 35'0 Prep ECD Completed 6/2/1995 EPA 8082 PCB Arcclar 1016 <01 ug/L 6/3/15951 MSZ PCS Arccior 1221 <01 EPA 8082 6/3/1995 MSZ ug1. PCB Arccior 1232 EPA 8082 6/3/1555 ug/L PCB Arcclor 1242 <01 ugl EPA 8082 6/3/1599 PCB Arcelor 1248 <01 $uq\Lambda$ EP4 8082 6/3/1599 PCB Arcciar 1254 <01 val **EPA 8082** 6/3/1999 MSZ 6/2/1595 PCB Arcclar 1260 <0.1 ug/L EPA 8082 PCB Arcciars total NA EPA 8082 6/3/1999 MSZ 12DCA-D4 (SLT SPK) 6/2/1999! 97 % sp ke recevery EP4 624 DLB EPA 614 EFB (SUIT SEK) 109 % spike recevery 6/2/1558 DLB Toluene-D8 (sur spk) عو (% spike recovery EPA 624 527939 SLB MSZ DCB (pest/PCB surr spx) 43 % sp ke recovery EPA 8082 637555 6/3/1595 FPA 8082 MSZ TCIAX (SUT SOK) % sp.ke recovery

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121,056.41 gal. discharged on 6-4-99 KAR Laboratories, Inc. from Modutank #2

FROM : ROY F WESTON, INC. 12:26 To:Mr. Nimish Adhvaryu

PHONE NO. :

From: Sandy Merts

Aug. 11 1999 06:48PM P3

KAPlahs 516 381-9899 Page 1/3

LABORATORY REPORT

Client: Roy F. Weston, Inc.

KAR Project No.: 992609

06/07/99 Date Reported:

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-056).

Sample ID: "WW-EFF-056"

Sampled By: NA of Roy F. Weston

Date Received : 6/4/99 Sample Type: 29U80US KAR Sample No.: 992609-01

Sample Date: 8/4/99 Sample Time: 1330

Test	Result	Units of Measure	Med.od	Analyzed	Analyst	Comments
Preo ECO	Completed		EP4 35'0	5/4/5\$	YJY	
PCB Arctior 1016	<01	uq.1	E=4 8082	6/7/95	MSZ	
PCB Arcelor 1221	<01	Jug 1	EPA 8082	6/7,55	MSZ	
PCB Arcelor 1232	1-01	ug/L	EP4 8082	6/7/85	MSZ	
PCS Aroclar 1242	<01	lugi	EPA 8082	6/7/55	NS2	
PCE Aroclar 1248	<01	UQL	E=4 8082	6/7/99	MSZ	
PCB Arcelor 1254	<0.1	ug,1	E34 8082	6/7/85	NSZ	
PCS Arcclor 1260	<01	10g-2	E24 8082	6/7/95	MSZ	
PCB Arcolors total	NA		EPA 8082	6/7/59	M.S.Z	
DCS (pesuFCB sur sor)	74	% sa ke recovery	EPA 8082	6/7/95	NSZ	
"CIAX (sur spk)	28	% spike recovery	E24 5082	6/7/86	MSZ	

121,056.32 gal.

discharged on 6-7-99

from Modutant #1

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KARLaboratories, Inc. (616) 381-9668

Aug. 11 1999 Ø6:49PM P4

LABORATORY REPORT

Client: Roy F. Weston, Inc.

KAR Project No.: 992609

Date Reported : 06/07/95

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-056).

Sample ID: Blank

Sampled By: Sample Date: 6/4/99 Date Received: 6/4/98

Sample Type: squeous

Sample Time:

KAR Sample No.: 992609-02

Test	Result	Guesell to Stud	Method	Analyzed	Analyst	Comments
Pres ECD	Completes		EPA 35'0	6/4/99	MUY	
PCB Arccior 1016	<01	υσΛ	EP4 8082	6/7/99	MSZ	
PCB Arcelor 1221	<01	ugs	EPA 8082	6/7/99	MSZ	
FC8 Arcciar 1232	<01	ug/L	E=4 8082	6/7/95	M.SZ	
PCB Arceler 1242	<01	JQ1	EPA 8082	6/7/98	MSZ	
PCB Arcclor 1248	<01	ug/L	EPA 8082	6/7/95	MSZ	
POS Arccior 1254	<0.1	ug.1	E74 8082	6/7/55	MSZ	
POB Arcciar 1250	<01	ug/L	EPA 8082	6/7/95	MSZ	
PC3 Areclors, total	NA		EPA 8082	6/7/55	MSZ	
DCB (pest/PCB sur spk)	:c2_	% sp.ke recovery	EP4 8082	6/7/95	MSZ	
TCIAX (SUT SPA)	42	% spike recevery	EPA 8082	6/7/55	MSZ	

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KAR Project No.: 992699

Date Reported: 06/10/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-057).

Sample ID: "WW-EFF-057"

Client: Roy F. Weston, Inc.

Sampled By: NA of Roy F. Weston

Sample Date: 5/9/1999 Sample Time: 1446 Date Received: 6/9/1999
Sample Type; aqueous
KAR Sample No.: 992699-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prop. Hg	Completed		EPA 245.2	6/10/1999	PML	
Prep, metals	Completed		EPA 3033, 200 x	6/10/1999	PML	
Cadmium, total	<.5	ug1	EPA 200 7	5/10/1999	PML	
Chromium, total	<10	ug/L	EPA 200.7	6/10/1999	PIML	
Copper total	<20	ug/L	EPA 200 7	6/10/1959	PML	
Lead total, by ICP	<50	ugs	EPA 200.7	SERNONS	PML	
Nercury, total low level	<0.2	uc1	EPA 245.2	6/10/1999	PML	
Nickel, total	<20	Jal	EPA 200.7	6/10/1999	PML	
Zinc, total	<10	ug/L	EPA 200.7	6/10/1899	PML	
Cyanide, total	<5	ug/L	EPA 335 2	6/10/1988	SML	
Gravimenic TPH (SGT-HEM)	<5	mg/L	EPA 1664	6/10/1999	MCB	
PH	7.9	S.U	EPA 150 1	5/9/1999	MCB	
MDNR Scan 2	See below		EPA 624	6/10/1999	SLB	
Prep. VOA	Completed		EPA 624	866 0013	ILB.	
Benzene	<1	ug/L	EPA 524	6/10/1999	בוכ י	
Ethylbanzene	<1	ug/L	EPA 524	6/10/1999	DLB	
M-end/or p-xylene	<1	ug/L	EPA 624	6/10/1999	DLB	
O-Xviene	<1	ig/L	EPA 624	6/10/1959	DLB	
Tcluene	<1	ug/L	EPA 624	6/10/1985	CLB	
Prop. ECD	Completed		EPA 3510	6/10/1999	YUN	
PCB Arcelor 1016	<01	uqL	EPA 8082	6404995	MSZ	
PCB Arccior 1221	<0.1	עפע	EPA 8082	6/10/1999	MSZ	
PC8 Aroclar 1232	<01	ugl	EPA 8082	8407988	MSZ	
PCB Arocior 1242	<0.1	ug/L	EPA 8082	6/10/1999	MSZ	
PCB Arociar 1248	<01	ug/L	EPA 8082	6707999	MSZ	
PCB Arocior 1254	<01	ugl	EPA 8082	6/10/1995	MSZ	
PCB Arociar 1260	<01	uc/L	EPA 8082	6/10/1959	MSZ	
PCB Arcclors, total	NA		EPA 8082	6/10/1995	MSZ	
120CA-04 (sur spk)	711	% spike recovery	EPA 624	6/10/1999	DLB	
BFB (surr spx)	110	% spike recovery	EPA 824	6/10/1995	اعدد	
Taluene-08 (sur spk)	98	% spike recovery	EPA 524	6/10/1999	OLB	
DCB (posvPCS suit spa)	5J_	% spike recovery	EPA 8082	6/10/1989	MSZ	
TCMX (surt spk)	34	% spike recovery	EPA 8082	6/10/1999	MSZ	

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KAR Laboratories, Inc.

(616) 381-9666

Page 2

126,820.91 gal.

discharged on 6-10-99

from Modutank #2

KAR Project No.:

992699

Client: Roy F. Weston, Inc.

Date Reported:

06/10/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-057).

Sample ID: <u>Blank</u>

Sampled By:

Sample Date:

Date Received: 6/9/1896

Sample Type: aqueous

Tant.	Result	Units of Measure	Method	Anahaca	Analyst	Comment
Test		1 Units of measure	-	Analyzed		Constients
Ртер. Но	Completed		EPA 245 2	6707988	PML	
Prep, metals	Completed		EPA 30xx,200 x	6/10/1999	PML	
Cadmium total	<5	ugi	EPA 200.7	6404999	PML	
Chromium, total	<10	vo/L	EPA 200 7	6/10/1999	PML	
Copper total	<20	ugs	EPA 200.7	5/10/1988	PML	
Lead. total, by ICP	<50	ual	EPA 200 7	6/0/1999	PHL	
Mercury, total low level	<02	ug/L	EPA 245.2	670/1995	PML	
Vickei total	<20	ug/L	EPA 200 7	6404598	PML	
Zinc, total	<10	ug/L	EPA 200 7	6/10/1999	PML	
Cyanide, total	<5	ual	EPA 335 2	6/10/1999	JMS	
Gravimetric TPH (SGT-HEM)	<5	rrc/L	EPA 1664	6/10/1686	MCB	
MDNR Scan 2	See below		EPA 624	6707999	DLB	
Prep. VOA	Completed		EPA 624	640,7599	DLB	
Benzene	<1	ug/L	EPA 524	6/10/1999	DLB	
Ethylberizene	<1	ug/L	EPA 624	6404999	DLB	
M-arcubi p-xylene	<1	UQAL	EPA 624	6/10/1999	DLB	
D-Xylene	41	ug/L	EPA 624	6/10/1986	DLB	
Taluene	<1	up/L	EPA 624	6/10/1999	DLB	
Prep SCO	Completeo		EPA 3510	6404969	MJY	
PC8 Arocior 1016	<01	JOL	EPA 8082	6/10/1989	MS2	
PCB Aroclor 1221	<01	ugl	EPA 8082	6727955	MS2	
PCB Arocior 1232	<01	ug/L	EPA 8082	6/10/1995	MSZ	
PCB Aroclor 1242	<01	ug/L	EPA 8082	6/10/1999	MS2	
PCB Arocior 1248	<01	Jg/L	EPA 8082	6/10/1969	MSZ	
PCB Arociar 1254	<01	ugl	EPA 8082	6/10/1998	MSZ	
PCB Aroclor 1260	<01	ug/L	EPA 8082	6/10/1999	MSZ	
PCB Arociors, total	NA		EPA 8082	6M01999	MSZ	
(2DCA-D4 (sur spk)	107	% spike recovery	EPA 624	6/10/1999	DLB	
OFB (surr spk)	712	% spike recovery	EPA 624	6A0M899	DLB	
(ciuene-D8 (surr spk)	99	% spike recovery	EPA 524	6/10/1999	DLB	
DCB (pest/PCB surr spk)	82	% spike recovery	EPA 8082	6/10/1989	MSZ	
TCMX (sur sak)	29	% spike recovery	EPA 8082	6/10/1899	MSZ	

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KAR Project No.: 992820

Date Reported: 06/17/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-058).

Sample ID: "WW-EFF-058"

Client: Roy F. Weston, Inc.

Sampled By: DME of Roy F. Weston

Sample Date: 6/15/99 Sample Time: 1630

F of Roy F. Weston Date Received: 6/15/99

Page Sample Type: squeou

Sample Type: squecus
KAR Sample No.: 992826-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Press. Hig	Completed		EPA 245.2	6/16/99	мтм	
Prep metals	Campleled		EPA 30xx, 200.x	6/16/99	DBL	
Cadmium total	<5	Jal	EPA 200.7	6/16/99	PIJL	
Chromium_fotal	<10	ual	EPA 200.7	6/16/99	PML	
Copper total	<20	ug/L	EPA 200.7	6/16/95	PML	
Lead total by 'CP	<50	ug/L	EPA 200.7	6/16/99	PML	
Mercury total low level	<0.2	ug/L	EPA 245.2	6/17/99	MTM	
Nickel, total	<20	ug/L	EP4 200 7	6/18/99	PML	
Zinc. total	20	Jg/L	EPA 200.7	6/16/99	PML	
Cvanide, total	<5	ugl	EPA 335.2	6/16/59	JMS	
Gravimatric TPH (SGT-HEIM)	<5	mc/L	EPA 1664	6/16/99	MCB	
74	7.8	S.U	EPA 150 1	6/15/99	JM:5	
DNR Scen 2	See below		EPA 624	6/18/99	DLB	
Preo VOA	Completed		EPA 524	6/16/99	DLB	
Eenzene	<1	NOT	EPA 524	6/16/95	DLE	
Envicenzene	<1	val	EPA 524	6/16/99	DLB	
M-and/or p-xylene	<1	ug1	EPA 524	6/16/99	DLB	
O-Xylene	<1	JQL	EPA 624	6/16/85	DLB	
Tcluene	<1	uqL	EPA 824	6/16/99	DLB	
Pres SCD	Completed		EPA 3510	6/16/99	SAS	
PCS Arcelar 1016	<0.1	Jal	EPA 8082	6/1 6/99	GMB	
PCB Arccior 1221	<01	NOT	EPA 8082	6/16/99	GMB	
PC8 Arcelor 1232	<0.1	ug/L	EPA 8082	6/16/99	GMB .	
PCB Arcciar 1242	<01	ug1	EPA 8082	6/18/95	GMB	
PCB Arcelor 1248	<0.1	ug/L	EPA 8082	6/16/99	GME	
PCB Arcclor 1254	<0.1	ugs	EPA 8082	6/1 6/99	GMB	
PCB Aroclar 1250	<0.1	ug/L	EPA 8082	6/16/83	GMB	
PCB Aroclars, total	NA.		EPA 8082	6/16/99	GMB	
12CCA-D4 (SUIT SOK)	114	% spike recovery	EPA 524	6/18/99	DLB	· -
EFB (suit sek)	112	% soike recovery	EPA 524	6/16/99	SLB	
Toluene DB (surr spk)	98	% sp:ke recovery	EPA 824	6/16/55	СЦВ	
DCB (pesuPCB sur spk)	89	% spike recovery	EPA 8082	6/16/99	GM₽	
TOMX (sur spic)	58	% spike recovery	EPA 8082	6/18/55	GMB	

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KARLaboratories, Inc.

129,703.20 gal. discharged on 6-17-99 from Modutank #1

KAR Project No.: 992820

Client: Roy F. Weston, Inc.

Date Reported: 06/17/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-058).

Sample ID: Blank

Sampled By: Date Received: 6/15/99

Sample Date: Sample Type: 8quecus

Sample Time: KAR Sample No: 992520-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Pres Mg	Completed		EPA 245 2	6/16/59	мтм	
िंट्र गल्यांड	Completed		EPA 30xx 200 x	6/16/99	CBL	
Cadmium total	<5	ugl	EPA 200 7	6/16/89	PML	
Cresmum, latel	<10	val	EPA 200,7	6M 8/88	PML	
Copper total	<20	ug/L	EPA 200 7	6/16/55	PHIL	
Lead total, by 'CP	<50	ug/L	EPA 200 7	6/16/99	PNIL	
Mercury, total fow level	<02	ug/L	EPA 2452	5M7/99	MTM	
Nicsel total	<20	ug/L	EPA 200 7	6/16/99	PML	
Zinc total	<10	1 491	EPA 200 7	8/16/98	PML	
Cyerude total	<5	ugl	EPA 335 2	6/16/99	JMS	
Graymetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	6/16/55	MCB	
MDNR Scar 2	See below		EPA 624	6/16/99	೭೧	
90 VOA	Completed		EPA 624	676.50	SLB	
serzene	<1	ug/L	EP4 824	5/16/98	DLB	
Eltribenzene	<1	ual	EPA 624	6/16/99	DLB \	
M-and/or p-xylene	<1	uo1	EPA 624	5/18/99	DLB	
0-Xylene	<1	JQ1	EPA 624	6/16/99	DLB	
Talvene	<1	JOA	EPA 824	6/18/95	DLB	
Pres ECD	Completed		EP4 3510	6/18/99	SAS	
PCB Arctior 1016	<0.1	ug/L	EPA 8082	6/18/99	GMB	
PCB Arcelor 1221	\<01	ugi	EP4 8082	5/16/99	GM8	
PCB Arcciar 1232	<01	UOL	EPA 8082	5/15/59	GMB	
PCB Arccior 1242	<01	Jal	EPA 8082	6/16/95	GMB	
PCB Arcclar 1248	<01	Jg.1_	EPA 8082	6/16/99	GMB	
PCB Araclar 1254	I <0 1	ug/L	EPA 8082	67 6/88	GMB	
PCB Arcelor 1260	<01	lugiz	EP4 8082	6/16/59	GMB	
PCB Arcciars, total	NA		EP4 8082	646/89	GMB	
12DCA-D4 (SUIT SDK)	111	% spike recovery	EPA 824	6/16/55	عات	
EFB (surr sck)	113	% spike recovery	EPA 624	6/16/98	CLB	
Tciuene-D8 (surr spx)	97	% spike recevery	EP4 624	61659	CLE	
DÇƏ (pest/PC8 sur sp<)	46	% spike recovery	EPA 8082	67.6/55	GMB	
TCIAX (SUT SPK)	1€	% so.ke recovery	EPA 8082	6/16/99	GMB	

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FROM: ROY F WESTON, INC.

LABORATORY REPORT

KAR Project No.: 992988

Client: Roy F. Weston, Inc.

Date Reported:

06/29/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-059),

Sample ID: "WW-EFF-059"

Sampled By: DME of Roy F. Weston

Sample Date: 5/23/1999

Sample Time: 1430

Date Received: 6/23/1999

Sample Type:

aqueous

KAR Sample No.: 992988-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Pres fig	Completed		EPA 245.2	6/24/1558	MTM	_
Prep metals	Completed		EPA 30xx, 200 x	6/24/1999	PML	
Cadmium total	<5	ug/L	EPA 200.7	6/25/1989	PML	
Chromium, lotsi	<10	ug/L	EPA 200 7	6/25/1899	PML	
Copper total	<20	ugA	EPA 200 7	6231898	PIAL	
Lead, total, by 'C?	<50	uq1	EPA 200 7	6/25/1999	PIML	
Mercury, total low level	<02	ugl	EPA 245 2	6/25/1999	MTM	
Nicxel total	<20	Jan.	EPA 200 7	6/25/1999	PML	
Zinc total	20	ug/L	EPA 200 7	6/25/1995	PML	
Cyenide, ictai	<5	JQ1	EPA 335 2	6/25/1999	JMS	
Graumetric TPH (SGT-HEM)	<5	mg/	EPA 1664	6/25/1999	MCB	
PH	80	S.U	EPA 150 1	6/23/1955	MCB	
MDNR Scar 2	See below		EPA 624	6/24/1955	DLB	
Prep VOA	Completed		EPA 624	6/24/1999	DLB	
Estate	<1	Ja1	EPA 824	6/24/1969	DLB	
Emiterzene	<7	ug1	EPA 524	6/24/1955	DLB	
M-ano/cr p-xylene	<1	uar	EPA 624	6/24/1988	פום	
O-Xylene	<1	ug/L	EPA 524	6/24/1989	DLB	
Toluene	45	ug/L	EPA 624	5/24/1999	CLB	
Prea ⊆CD	Completed		EPA 3510	8/25/1999	SAS	
PCB Arcelor 1016	<01	Ja1	EPA 8082	6/28/1995	MSZ	
PCB Arcclor 1221	<0.1	ugl	EPA 8082	6/25/1958	₩SZ	
PCB Arcelor 1232	<0 1	lugi	EPA 8082	6/25/1999	MSZ	
PCB Arccior 1242	<0 7	ug1_	EPA 8082	6/26/1999	MSZ	
PCB Arcclor 1248	<01	ua/L	EPA 8082	6/26/1999	MSZ	
PCB Arcelor 1254	<0.1	val	EPA 8082	6/26/1999	MSZ	
PCB Arcelor 1260	<01	ug1	EP4 8082	6/26/1999	MSZ	
PCB Arcclars, total	NA		EPA 8082	6/26/1995	MSZ	
12DCA-D4 (surt spk)	117	% sp.ke recovery	EPA 624	6/24/1995	DLB	
EFB (surt spix)	117	% so ke recovery	EPA 524	6/24/1955	CLB	
Taluene-D8 (sur sok)	101	% sp.ke recovery	EP4 624	5/24/1959	CLB	
DCB (pastPCB sur spk)	48	% spike recovery	EP4 8082	626/1595	MSZ	
TCMX (SUT SOK)	23	% sp.ke recevery	EPA 8082	6/28/1999	MSZ	

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Page 2

KARLaboratories, Inc. discharged on 6-28-99

(515) 381-8656 From Modutank #2

Client: Roy F. Weston, Inc.

LABORATORY REPORT

KAR Project No.: 992988

Date Reported: 06/29/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-059).

Sample ID: Blank

Sampled By:

Date Received: 6/23/1999

Sample Date : Sample Time:

Sample Type: aqueous KAR Sample No.: 592988-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Pres ha	Completed		EPA 245 2	6/24/1999	MTM	
Preo metals	Completed		EPA 30xx,200 x	6/24/1999	PML	
Cadmum total	<5	ug/L	EPA 200.7	6/25/1995	PML	
Chromium, lotal	<10	vg/L	EPA 200.7	6/25/1999	PML	
Copper total	<20	ugs	EPA 200 7	6/25/1999	PML	
Lead total, by 'CP	<50	cal	EPA 200 7	6/25/1999	PML	
Mercury total low level	<0.2	val	EPA 245.2	6/25/1999	MTM	
Nickel total	<20	ug/L	EPA 200 7	5/25/1999	PML	
Zinc total	<10	wal	EPA 200 7	6/25/1666	PML	
Cyanide, tolai	<5	ucl	EPA 335 2	025/1999	JMS	
Gravimetric TPH (SGT-HEM)	<5	mc/L	EPA 1664	6/25/1989	MCB	
MONR Scan 2	See below		EPA 624	6/24/1985	DLB	
Prep VQA	Completes		EPA 824	5.24,4586	CLS	
Eerzene	< 5	ug/L	EPA 624	6/24/1995	CLB	
Ethylbanzene	<1	ug/L	EPA 624	6/24/1999	ET8	
M-and/or p-xylene	<1	ugh	EPA 624	6/24/1989	CLB	
0-Xylena	<1	ug/L	EPA 624	6/24/1999	CLE	
Tcluene	<1	ug/L	EPA 524	6/24/1595	CLE	
Prep SCD	Completed		EPA 3510	6/25/1999	545	
PCB Arccior 1016	<01	ug1	EPA 8082	6/26/1999	M.SZ	
PCB Arcclar 1221	<0.1	ugl	EPA 8082	6/26/1999	MS2	
PCB Aroclar 1232	<01	1002	EPA 8082	6/26/1555	NS2	
PC8 Arocior 1242	<01	val	EP4 8082	6/28/1555	MSZ	
PCB Arccior 1248	<01	ug/L	EPA 8082	6/26/1999	MSZ	
PCB Arcclor 1254	<01	uq1_	EPA 8082	6/25/1955	MSZ	
PCB Arccior 1260	<01	uq.1_	EPA 8082	6267555	NSZ	
PCB Arcelors total	NA		EPA 8082	6/26/1999	MSZ	
12DCA-D4 (SLET SPK)	114	% sp.ke recovery	EPA 624	6/24/1999	JL5	
EFB (surt sch)	121	% sp ke recovery	EPA 624	6/24/1595	عند	
Toluene-D8 (sur spk)	97	% so ke recovery	EPA 624	6/24/1999	عاء	
DC8 (pestPC8 sur spk)	73	% sp.ke recovery	EPA 8082	6/26/1999	MSZ	
TCMX (sur spa)	37	% spike recovery	EPA 8082	6/28/1999	₩SZ	

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PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kaiamazoo Michigan 49007-2565 (616) 337-8157 Fax (616) 357 8699

LETTER OF COMPLIANCE

July 8, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent monthly self-monitoring results from your facility's sanitary sewer monitoring point (APE) for May 1, 1999 - May 31, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Industrial Inspections Supervisor

c Sue Foune, Technical Services Manager File

BOD dw/loc's\APE Allied Paper-EPA SM 5-99

LO	C, LOV &	QQ LET	TTER REQ	UEST FOR	M
FACILITY NAME: L CONTACT PERSON	EPA - Allied L : brad Stim	agoon	Date: Inspector	7/2/99 : Rochow	
□ Copy:					
☐ Return draft to Ins☐ Special Instruction					
Type of Letti	ER NEEDED				
□ LOV LETTER (-1 = compliance	monitoring/-	2 = self-monito	ring) (check appro	opriate box)
□ BETX-1	□ BETX-2	Cd-1	□ Cd-2	□ Cn-1	□ Cn-2
□ Cn-3**	□ Cr-1	□ Cr-2	□ Cu-1	□ Cu-2	□ Hg-1
□ Hg-1A*	□ Hg-2	□ Hg-2A*	☐ Hg-3**	□ Ni-1	□ Ni-2
□ Pb-1	☐ Pb-2	□ PCB-1	□ PCB-2	□ PCB-3***	□ pH-1
□ pH-2	□ pH2-Cont	□ pH-3**	☐ TPH-1	☐ TPH-2	☐ TPH-3**
□ Zn-1	□ Zn-2	□ SNC	□ Non-Com	p	
Monitoring Point(s Level of Violation	S):		Da ⁻	ге:	
* Letter w/compliance ** No resamples requ *** Resample LOV w	e schedule ired LOV letter				
☑ LOC LETTER					
☑ LOC-2 (Se ☐ LOC-3 (G	ompliance Monito elf-Monitoring) roundwater Reme pecial Monitoring esampling)	diation Project			
Monitoring Point(s): <u>APE</u>		DA	TE: May '9	9
□ Q/Q LETTER	and the second second				enterger et des Albeites receive
MONITORING POINT:	IAT MONITU'S DII I		Date:		

Roy F. Weston, Inc. Allied Paper Inc. Operable Unit 266 E. Alcott Street Kalamazoo, MI 49001 (616) 373-7008 (616) 373-7010 Fax

Fax

Comment	,			
Urgent	For Review	Please Comment	Please Reply	Please Recycle
Re: Moi	othly Repo	ort cc:		
Phone:		Date:	6-10-99	
Fax: 3	337-8699	Pages:	10 + cover	!
Ta: Bo	b O'Day	From:	David En	nnis_

Please call with questions/concerns. 373-7008 Thanks, David Ennis



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

Facility: EPA-Allied Paper

77 North Jackson Blvd., SE-5J

Chicago IL 60604

<u>Due:</u>

June 10, 1999

Reporting Period:

May 1 - 31, 1999

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:

<u>Pollutants</u>	Daily Max.	<u>Unit</u>	Results	Sample Type
BETX	15	mg/l	2.01	GRAB
CADMIUM	40	ug/l	45	GRAB
COPPER	2230	ug/l	420	GRAB
CYANIDE	250	ug/l	4.5	GRAB
LEAD	110	ug/l	450	GRAB
MERCURY	Prohibited	ug/l	ND_	GRAB
NICKEL	1590	ug/l	420	_ GRAB
PCBs	Prohibited	ug/l	ND.	_ GRAB
TOTAL CHROMIUM	4670	ug/l	410	GRAB
TOTAL PETROLEUM HYDROCARBON	100	mg/l	45	GRAB
ZINC	5300	ug/l	12.50	_ GRAB
рН	6.2-9.8	S.U.	7.825	GRAB

N/R indicates Not Required

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Flow Information:	_ Average Batch (GAL) 1, 452,737.61 Total Monthly (GAL)	
Date and Time of Sampling:		
Batch #1:	Batch #3:	
Batch #2:	Batch #4:	

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Brad Stimple

pac 5

Data

Title:

On-Scene Coordinator/Environmental Scientist

DECEIVE, DIUN I 0 1999

KAR Project No.: 992162

Client: Roy F. Weston, Inc. Date Reported: 05/11/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-046).

Sample ID: "WW-EFF-046"

Sampled By: TRL of Roy F. Weston

Sample Date: 5/10/1999

Sample Time: 0825

Date Received: 5/10/1999 Sample Type :

aqueous

KAR Sample No.: 992162-C1

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Pres, ECD	Completed		EPA 3510	5/10/1989		
PCB Arocior 1016	<01	J0.2	EPA 8082	5707589	NS2	
PCB Aroclar 1221	<0.1	ug/L	EPA 8082	5/10/1955	WSZ	
PCB Arocior 1232	<0.1	ug/L	EPA 8082	5/10/1999	MISI	
PCB Aroclor 1242	<01	ug/L	EPA 8082	5/10/1598	MSZ	
PCB Aroclor 1245	<01	NOV	EPA 8082	5/10/1599	MSZ	
PCB Arcclor 1264	<0.1	ug/L	EPA 8082	5/10/1959	MSZ	
PCB Aroclar 1280	<01	עמר	EPA 8082	5/10/1999	MSZ	
PCB Aroclors, total	NA_		EPA 8082	8/10/1999	NSZ	
DCB (pest/PCB sur spk)	71	% spike recevery	EPA 8082	5/10/1999	MSZ	
ТСІЛХ (зит эрк)	36	% spike recevery	EPA 8082	5/10/1995	MSZ	

103,762.56 gal.

discharged on 5-11-99

from Modular Tank #1

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From: Sandy Mentz

Jun. 10 1999 09:45AM P4

KAPLabs 516 381-9698 Page 2/3

LABORATORY REPORT

KAR Project No.: 992170

Date Reported: 05/11/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-047).

Sample ID: "WW-EFF-047"

Client: Roy F. Weston, Inc.

Sampled By: NA of Roy F. Weston

Sample Date : 5/10/99

Sample Time: 1600

Date Received: 8/10/99 Sample Type:

8**QU9**0U\$

LAR	Sample	No.	:	9921	70-0

Units of Measure Method EPA 245 2 EPA 30xx, 200 x EPA 200.7 EPA 200 7 EPA 200 7	5/10/59 5/10/59 5/11/59 5/11/59 5/11/59	Analyst MTM PML PML PML PML PML	Continents	
d Jal Jal Jal Jal	EPA 30xx, 200 x EPA 200.7 EPA 200.7 EPA 200.7 EPA 200.7	5/1/99 5/1/99 5/1/99 5/1/69	PML PML PML	
ug/L ug/L ug/L	EPA 200.7 EPA 200.7 EPA 200.7 EPA 200.7	5/1/89 5/1/89 5/1/89	PML PML	
υσ/L υσ/L	EPA 200 7 EPA 200 7 EPA 200 7	5/11/99 5/11/59	PML	
ug/L	EPA 200 7 EPA 200 7	5/11/58		
ugiL	EPA 200 7		PML	
Jg/L	1	5/11/59	PML	
	EPA 245 2	5/11/59	MTM	
up/L	EPA 200.7	5/11/99	PML	
ug/L	EPA 200.7	5/11/99	PML	
vg/L	EPA 335.2	5/11/95	JM5	
mg/L	EPA 1664	5M1/55	DRA	
SU	EP4 150 1	5/10/93	JM5	
1	EPA 624	5/11/05	DUB	
s I	EPA 824	5/11/95	CLS	
JgL	EPA 624	5/11/98	DLB	
UGIL	EPA 624	5/11/29	DLE	
ug/L	EPA 624	5/11/95	DLB	
ug1	EPA 624	5/11/39	SLB	
JCL	EP4 624	5/11/68	DLB	
đ	EPA 35'0	5/11/85	SAS	
JQ2	EPA 8082	E/11/95	MSZ	
vg.1	EPA 8087	5/11/98	MSZ	
ugs	EPA 8082	5/11/99	MSZ	
ugs	EP4 8082	5/11/99	MSZ	
ug1	EPA 8082	5/11/99	MSZ	
ugi_	EPA 8082	3/11/95	MSZ	
Jol	EPA 8082	5/1/59	MSZ	
	EPA 8082	571758	MSZ	
% spike recovery	EPA 624	5/11/95	DLE	
% spike recovery	EPA 624	5/11/95	CLB	
% spike recovery	EPA 824	5/11/98	افات	
% spike recovery	EP4 8082	5/11/59	MSZ	
% sp.ke recovery	EP4 8082	5/11/95	MSZ	:
	upfl upfl	### ##################################	upf. EPA 200.7 \$f1/99 upf. EPA 200.7 \$f1/99 upf. EPA 335.2 \$f1/99 upf. EPA 335.2 \$f1/99 ref. EPA 1664 \$f1/99 SU EPA 1664 \$f1/99 V EPA 624 \$f1/99 V EPA 624 \$f1/99 Upf. EPA 8082 \$f1/99 Upf. EPA 8082 <td>Upf. EPA 200.7 \$11/99 PML Upf. EPA 200.7 \$11/99 PML Upf. EPA 335.2 \$11/95 JMS Impl. EPA 1664 \$11/95 JMS Impl. EPA 1664 \$11/95 DRA S U EPA 1501 \$10/99 JMS V EPA 624 \$11/95 DLB Upf. EPA 8082 \$11/95 MSZ Upf.</td>	Upf. EPA 200.7 \$11/99 PML Upf. EPA 200.7 \$11/99 PML Upf. EPA 335.2 \$11/95 JMS Impl. EPA 1664 \$11/95 JMS Impl. EPA 1664 \$11/95 DRA S U EPA 1501 \$10/99 JMS V EPA 624 \$11/95 DLB Upf. EPA 8082 \$11/95 MSZ Upf.

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Page 2

KARLaboratories, Inc.

(618) 381-9668

Page 2

(15, 291.73 gal.

discharged 5-11-99

From Modular Tank #2

FROM: ROY F WESTON, INC.

LABORATORY REPORT

KAR Project No.: 992178

Client: Roy F. Weston, Inc.

Date Reported:

05/12/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-037-

Sample ID: "WW-EFF-037-C"

Sampled By: NA of Roy F. Weston

Sample Date : 8/11/99 Sample Time: 1200

Date Received: 5/11/99 Sample Type: **EQUOCUS**

KAR Sample No.: 992178-01

Method Result Units of Measure Analyzed Analyst Comments Test Prep, SCD Completed EPA 3510 5/11/98 MJY PCB Aroclar 1018 <0 1 ug/L EPA 8082 5/12/99 MSZ PCB Aroclor 1221 < 0.1 EPA 8082 5/12/99 MSZ ug/L <01 EPA 8082 5/12/99 PCB Arocior 1232 va/L PCB Aroclar 1242 EPA 8082 5/12/99 MSZ 101 uo/L EPA 8082 5/12/99 MSZ PCB Arocior 1248 <01 ug/L <01 EPA 8082 ST 200 MSZ PCB Arccior 1254 ug/L PCB Araclar 1260 <01 UQ/L EPA 8082 5/12/99 MSZ NA PCB Arcclars, total EPA 8082 5/12/98 MSZ DCB (pest/PCB surr spic) 35 EPA 8082 MSZ 5/12/99 % spike recovery TCMX (sur spk) 17 EPA 8082 5/12/99 % spike recovery

> 526,080.20 gal. discharged 5-13-99 thru 5-29-99 from Clarifier

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Jun. 10 1999 09:46AM P6 karlabs 515 381-9698 Page 2/3

LABORATORY REPORT

KAR Project No.: 992248

Client: Roy F. Weston, Inc.

Date Reported:

05/14/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-048),

Sample ID: "WW-EFF-048"

Sampled By: NA of Roy F. Weston

Sample Date: 5/14/99 Sample Time: 0730

Date Recoived: 5/14/99 Sample Type: zqueous

KAR Sample No.: 992248-01

Test	Rasut	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 35'0	514.08	YLM	
PCB Aroclor 1016	<0.1	ug/L	EPA 35'0	5/14/99	GMB	
PCB Arociar 1221	<01	ug/L	EPA 35'0	5/14/96	GMB	
PCB Aroclar 1232	<01	val	EP4 35°C	5/14/98	GMB	
PCB Arcelor 1242	-01	ugs	EPA 35'0	5/14/89	GMB	
PCB Aroclor 1248	<01	ugs	EPA 35'0	5/14/99	GMB	
PCS Araclar 1254	<01	Jal	EP4 35'C	5/14/56	GMB	
PCS Arctior 1260	<01	ugiL	EPA 3510	5/14/98	GMB	
PCB Arcclars, total	NA		EPA 35'C	5/14/98	GMB	
DCB (pest/PCB sur spk;	69	% spike recevery	EP4 35'0	5/14/59	GMB	
TOMX (SUT SOK)	30	% spike recovery	EP4 35'5	EM 4/88	GMB	

89,351.00 gal.

discharged on 5-15-99

from Modular Tank #1

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KAR Project No.: 992274

Date Reported: 05/18/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-049).

Sample ID: "WW-EFF-049"

Client: Roy F. Weston, Inc.

Sampled By: NA of Roy F. Weston

Sample Date: 5/17/1999 Sample Time: 0730

Date Received: 6/17/1999 Sample Type: **3QUeous**

KAR Sample No.: 992274-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, Hg	Completed		EPA 245 2	5/17/1999	мтм	
Prep, metals	Campleted		EPA 3021, 200 1	5/17/1599	PML	
Cedmum, total	<5	ug/L	EPA 200.7	5/17/1999	PML	
Chromium, lotal	<10	Ug/L	EPA 200 7	5/17/1999	PML	
Copper total	<20	ugs	EPA 200 7	5/17/1999	PML	
Lead total, by ICP	<50	ug/L	EPA 200 7	5A7M998	PML	_
Mercury total low level	<0.2	Jg/L	EPA 245.2	5/18/1999	МТМ	
Nickel total	<20	UGIL	EPA 200 7	5/17/1988	PML	
Zinc, total	10	ugl	EPA 200.7	5/17/1688	PML	
Cyanide, total	<5	ug/L	EPA 335 2	8/17/1999	JMS	
Grevimetic TPH (SGT-HEM)	<5	mg/_	EPA 1664	5/17/1988	DRA	
PH	7.8	S.U	EPA 150 1	5/17/1999	JM.S	
MDNR Scan 2	See below		EPA 824	5A7M999	DLB	
TED VOA	Completed		EPA 624	5/17/1999	DLE	
Benzene	<1	ug/L	EPA 624	5/17/1999	DLB	
tryibenzene	<1	ug/L	EPA 624	5/17/1999	DL5	
A-end/or p-xylene	<1	ug/L	EPA 624	BATMS68	DLB	
o-xylane	<1	ug/L	EPA 624	5/17/1999	CL8	
foluene	<1	ug/L	EPA 624	5/17/1999	DLB	
Prep. ECD	Completed		EPA 3510	5/17/1999	MJY	
CB Arociar 1016	<01	ugh	EPA 8082	5/18/1999	MSZ	
PCB Arocior 1221	<01	ugiL	EPA 8082	5/18/1999	MSZ	· · · · · · · · · · · · · · · · · · ·
PCB Aroclar 1232	<01	ual	EPA 8082	5/18/1999	MSZ	
CB Arocior 1242	<0.1	na/r	EPA 8082	5787596	MSZ	
PCB Arocior 1248	<01	ug/L	EPA 8062	5/18/1999	MSZ	
PCB Araciar 1254	<01	ndyr.	EPA 8082	5/18/1959	MSZ	
PGB Aroclar 1260	<01	ug/L	EPA 8082	5/18/1999	MSZ	
PCB Aroclors total	NA		EPA 8082	5/18/1999	MSZ	
2DCA-D4 (surr spk)	103	% spike recovery	EPA 624	5/17/1598	JLB	
FB (sun spk)	108	% spike recovery	EPA 624	5/17/1999	CLB	
(sur spk)	100	% spike recovery	EPA 624	5/17/1999	DLB .	
OC8 (pest/PC8 sur spx)	47	% splike receivery	EPA 8082	5/18/1999	MS2	
TCMX (sur spk)	11	% spike recovery	EPA 8082	5/18/1999	M.S.Z	

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Page 2

the written consent of Rey F. Weston, Inc.

118, 174.03 ga/.

discharged on 5-18-99

KAR Laboratories, Inc.

(616) 381-8666 from Modular Tank #2

FROM: ROY F WESTON, INC. 85/28/99 15:59 To:Mr. Nimish Adhuaryu

Client: Roy F. Weston, Inc.

PHONE NO. :

From: Sandy Mertz

Jun. 10 1999 09:47AM P8

KAPlabs 515 361-9693 Page 2/3

LABORATORY REPORT

KAR Project No.: 992345

Date Reported:

05/20/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-050).

Sample ID:

"WW-EFF-050"

Sampled By: NA of Roy F. Weston, Inc.

Sample Date: 8/19/99

Sample Time: 1830

Date Received: 5/19/99

Sample Type: aqueous

KAR Sample No.: 992345-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 3510	5/20/99	MJY	
PC8 Arociar 1016	<0.1	ugs	EPA 8082	5/20/99	MSZ	
PCB Arocior 1221	<0.1	ug/L	EPA 8082	5/20,98	MSZ	
PCB Aroclor 1232	<0.1	val	EPA 8082	5/20/89	MSZ	
PCB Aroclor 1242	<0.1	ug/L	EPA 8082	5/20/58	MSZ	
PC8 Argclar 1248	<0.1	ug/L	EPA 8082	5/20/99	MSZ	
PCB Arcelor 1264	<0.1	ug/L	EPA 8082	5/20/99	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8082	5/20/99	MSZ	
PCB Aroclars, total	NA		EPA 8082	5/20/98	MSZ	
DCB (pest/PCB sur spk)	75	% spike recovery	EPA 8082	£/20/99	MSZ	
TCMX (sur spk)	45	% spike recovery	EPA 8082	5/20/58	MSZ	

132,585.00 gal.

discharged on 5-20-99

from Modular Tauk #1

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Jun. 10 1999 09:47AM P9 KARLabs 516 381-3693 Page 2:3

LABORATORY REPORT

KAR Project No.: 992388

Client: Roy F. Weston, Inc.

Date Reported:

05/24/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-051).

Sample ID: "WW-EFF-051"

Sampled By: NA of Roy F. Weston

Sample Date: 5/21/1999

Date Received :

5/21/1999

Sample Type:

agueous

Sample Time: 1645

KAR Sample No.: 992388-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3510	5/24/1999	SAS	
PCB Araciar 1018	<01	UGA	EPA 8082	3/24/1999	KTL	
PCB Arcclor 1221	<01	ug/L	EPA 8062	5/24/1989	KTL	
PCB Arcclor 1232	<01	ug/L	EPA 8082	5/24/1999	KTL	
PCB Arociar 1242	<01	ug/L	EPA 8082	5/24/1999	KTL	
PCB Arpolor 1248	<01	ug/L	EPA 8082	5/24/1999	KTL	
PCB Aroclor 1254	<01	ug/L	EPA 8082	5/24/1988	KTL	
PCB Aroclor 1260	<01	η Δ ιΣ	EPA 8082	5/24/1999	KTL	
PCB Arcclors, total	NA		EPA 8082	5/24/1888	KTL	
DCB (pesuPCB sur spix)	76	% spike recovery	EPA 8082	5/24/1999	KTL	
TCMX (SUIT SPA)	40	% spike recovery	EPA 8082	5/24/1999	KTL	

121,056.41 gal.

discharged on 5-25-99

from Modular Tank #2

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KAR Project No.: 992405

Date Reported: 05/25/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-052),

Sample ID: "WW-EFF-052"

Client: Roy F. Weston, Inc.

Sampled By: NA of Roy F. Weston

Sample Date: 5/24/99

Sampie Time: 1600

Data Received: 5/24/99

Sample Type:

2000US

KAR Sample No.: 992405-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Pres hg	Completed		EPA 245 2	525/66	MTM	
Prep metals	Complete		EPA 30xx,200 x	5/25/99	MTM	
Cedmum total	1 < 5 V	ual	EPA 200 7	5/25/59	PML	
Chromium, total	<10	ug/L	EPA 200 7	525.95	PML	
Copper total	1 < 20 /	ug/L	EPA 200 7	52388	PML	
Leed total by 'CP	<50	JOSE	EPA 200 7	5/25/99	PML	
Mercury total low level	-02	עפע	EP4 245.2	525.75	мтм	
Nickel total	1<20	υ <u>σ</u> Λ_	EPA 200.7	52558	PML	
Zinc total	1<10	ug/L	EPA 200 7	E/25/55	PML	
Cyarida lotai	<5 ✓	ugit	EPA 335 2	5/25/95	JMS	
Grevimetic TPH (SGT-EM)	45	mg/_	EPA 1664	5/23/59	MCB	
PH	80 6	SU	EP4 1501	5/24/95	JM:S	
MDNR Scar 2	See below		EPA 524	525/85	JLS	
Prep VOA	Completed		EP4 824	5/25/99	DLS	
Berzene	41 /	ug/L	EPA 624	5/25/99	DLB	
Elhylberizene	<1 V	J0.1	EPA 824	5/25/85	DLB	
M-endor p-xylene	1 ×1	ugl	EPA 624	5/23/99	518	•
O-Xviene	KI V	Jg.1	EPA 624	5/2539	DLB	
Тсіиеле	1<1 V	Jall	EPA 624	5/25/88	DLB	
Prep SCD	Completeo		EP4 35'0	525/99	MJY	
PCB Areclor 1016	<01 Y	ug/L	EPA 8082	5/25/99	MSZ	
PCB Arcclor 1221	1<01 V	UQA	EPA 8082	5/25/98	MSZ	
PCS Arcclar 1232	-01 V	igil	E24 8082	5/25/55	MSZ	
PCB Afocior 1242	101 V	UGIL	EPA 8082	5/25/95	M.S.Z	
PCB Aroclar 1248	<01	val	EPA 8082	5/25/55	MSZ	
PCB Aroclor 1254	<01	Jan	EPA 8082	57555	MSZ	
PCB Arcclor 1250	<01 V	ug/L	EP4 8082	5/23/55	M.SZ	
PCB Arcciors total	NA		EPA 8082	5/25/99	WSZ	
12DCA-D4 (SUIT SPK)	1771	% spike recovery	EPA 624	5/25/95	CLB	
EFB (surt spk)	116	% spike recovery	EPA 824	5/23/99	CLB	
Tcluene-D8 (sur sck)	95	% spike recovery	EPA 624	5/25/55	CLB	
DCB (pesuPCB sur spk;	53	% spike recovery	E24 8082	52555	MSZ	
TCMX (sut sak)	21	% spike receivery	EPA 8082	5/25/55	M.S.Z	

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A TITE WETTER CONSETT O' RCY F. WASTON, Inc.

135, 467.79 gal.

discharged on 5-26-99

KARLaboratories, Inc.

(816) 381-8666 from Modular Tan t #1

Page 2

FROM: ROY F WESTON, INC. 85/28/39 12:28 To:Mh. Nimish Adhiaryu PHONE NO. : From Sandy Mertz

Jun. 10 1999 09:48AM P11 KARlabs 516 381-9698 Page 2/3

LABORATORY REPORT

KAR Project No.: 992464

05/28/99 Date Reported:

Client: Roy F. Weston, Inc.

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-053).

Sample ID: *"WW-EFF-053"*

Sampled By: NA of Roy F. Weston

Sample Date : 5/27/99 Sample Time: 1130

Date Received : 5/27/99 Sample Type: 29U90US KAR Sample No.: 892464-01

Test Result Units of Measure Nethod Analyzed Analyst Comments 5/27/98 ŞAŞ Prep ECD Completed EPA 3510 5/28/99 PCB Arocla 1016 MSZ <01 ug/L EPA 8082 PCB Arcclor 1221 5/28/99 MSZ <0.1 EPA 8082 ugl 528/85 MSZ PCB Aroclar 1232 <0.1 ual EPA 8082 PCB Aroclor 1242 <01 uq/L EPA 8082 5/28/09 MSZ PCB Arcclor 1248 <0.1 5/28/99 MSZ JOIL EPA 8082 PCB Aroclor 1254 <01 ug/L **EPA 8082** 5/28/96 NSZ PCB Aroclar 1260 < 0.1 5/28/59 MSZ ug/L EPA 8082 PCB Aroclars total NA EPA 8082 5/28/95 MSZ DCB (pesuPCB sur spix) 53 EPA 8082 5/28/99 MSZ % spike recovery TCMX (SUT SPK) 25 EPA 8082 5/28/88 % spike recovery

110,968.29 gal.

discharged on 5-28-99

from Mcdular Tank #2

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PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 337-815. Fax (616) 337-8679

LETTER OF COMPLIANCE

May 25, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent monthly self-monitoring results from your facility's sanitary sewer monitoring point (APE) for April 1, 1999 - April 30, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Industrial Inspections Supervisor

Probert COVay

c Sue Foune, Technical Services Manager File

BOD:dw/loc's\APE Allied Paper-EPA SM 4-99

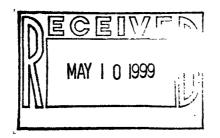
FACILITY NAME: E				LI/19 : Rochow	
☐ Copy:					
☐ Return draft to Ins☐ Special Instruction	•				
Type of Lett	er Needed				
□ LOV LETTER (-1 = compliance	monitoring / -:	2 = self-monito	ring) (check appro	opriate box)
□ BETX-1	□ BETX-2	□ Cd-1	□ Cd-2	□ Cn-1	□ Cn-2
□ Cn-3**	□ Cr-1	□ Cr-2	□ Cu-1	□ Cu-2	☐ Hg-1
□ Hg-1A*	☐ Hg-2	☐ Hg-2A*	☐ Hg-3**	□ Ni-1	□ Ni-2
□ Pb-1	□ Pb-2	□ PCB-1	□ PCB-2	□ PCB-3***	□ pH-1
□ pH-2	□ pH2-Cont	□ pH-3**	☐ TPH-1	☐ TPH-2	☐ TPH-3**
□ Zn-1	□ Zn-2	□ SNC	□ Non-Com	p	
Monitoring Point() Level of Violation				TE:	
* Letter w/compliance ** No resamples requ *** Resample LOV w	ired LOV letter				
LOC LETTER					
☑ LOC-2 (Se ☐ LOC-3 (G	ompliance Monito elf-Monitoring) roundwater Reme pecial Monitoring esampling)	diation Project)		
Monitoring Point(:	s): APE		D <i>A</i>	ATE: April 1	999
□ Q/Q LETTER					
MONITORING POINT:			Date:		

TO BE APPLIED TO WHAT MONTH'S BILL?_

Roy F. Weston, Inc. Allied Paper Inc. Operable Unit 266 E. Alcott Street Kalamazoo, IVII 49001 (616) 373-7008 (616) 373-7010 Fax

Fax

To: BOB	ODAY	From:	IMOTHY K. LA	BHETIPE
Fax: 337	1-8699	Pages:	33	
Phone:		Date:	10 MAY 1999	
Re: MONTH	14 REPORT	CC:		
Urgent	For Review	Please Comment	Please Reply	Please Recycle
Comments:		NOOD ADDITIONAL 73-7008 OR 70	14ANK YOU!	,





KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

Facility: EPA-A

EPA-Allied Paper

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due:

May 10, 1999

Reporting Period:

April 1 - 30, 1999

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:

Pollutants	Daily Max.	<u>Unit</u>	Results	Sample Type
BETX	15	mg/l	4.01	GRAB
CADMIUM	40	ug/i	45	GRAB
COPPER	2230	ug/l	120	GRAB
CYANIDE	250	ug/l	15	GRAB
LEAD	110	ug/l	450	GRAB
MERCURY	Prohibited	ug/l	BELOW DOTEST	MINTGRAB
NICKEL	1590	ug/l	420	GRAB
PCBs	Prohibited	ug/l	BEROW DETER	TIM GRAB
TOTAL CHROMIUM	4670	ug/l	_210	GRAE
TOTAL PETROLEUM HYDROCARBON	100	mg/l	45	GRAB
ZINC	5300	ug/I	12.50	GRAB
рН	6.2-9.8	s.u.	7.825	GRAB

N/R indicates Not Required

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Flow Information: 114,020-12 Average Batch (GAL) 1,938,342.04 Total Monthly (GAL)

Date and Time of Sampling:

Batch #1: WW-EFF-028 0900 Ams 4.12.1999 Batch #3: WW-EFF-036 0830 Hms

Batch #2: WW-EFF-033/1400 Hrs /4-20 1999 Batch #4: WW-EFF-042/0900 Hrs/5-3 1999

Note: If more than one batch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Brad Stiernle

15 WA ROLS

Title:

On-Scene Coordinator/Environmental Scientist

MAY I O 1999

PHONE NO. :

From: David Allema

May. 10 1999 05:43PM P3

KARLabs 315 381-9535 Page 2/3

LABORATORY REPORT

KAR Project No.: 991598

Date Reported:

04/13/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-028).

Sample ID: "WW-EFF-028"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date : 4/12/99 Sample Time: 0900

Date Received: 4/12/99

Sample Type: aqueous KAR Sample No.: 891598-01

Test	Result	Units of Measure	Method	Analyzed	Analysi	Constients
Prop Hg	Completed		EPA 245.2	4/12/99	М ТМ	
Prep, metals	Completed		EPA 30xx, 200 x	4/12/99	PML	
Cadmium total	<5	ugl	EPA 200 7	41288	PML	
Cnromium total	<10	vol	EPA 200.7	4/2/99	PIAL	
Copper total	<20	ug/L	EPA 200 7	4/12/99	PML	
Lead total, by ICP	<50	⊔D/L	EPA 200 7	4/12/99	PML	
Mercury, botal low level	<0.2	ug/L	EPA 245 2	4/13/99	PWL	
Nicker total	<20	ugl	EPA 200 7	4/12/99	PNIL	
Zinc, fotel	<10	ugit	EPA 200 7	4/12/98	ع الماحر	
Cyanide, total	<5	ug/L	EPA 335.2	4/12/99	VAS	
Graymetic TEH (SGT-HEM)	<5	ing/L	EPA 1664	4/13/99	೩ .೦	
PH	80	SU	EPA 150 1	4/12/99	POH	
MDNR Scan 2	See below		EPA 624	4/12/99	5LS	
Prep, VOA	Completed		EP4 624	4/12/99	CLB	
Şerizene	<1	ug/L	EPA 624	4/12/99	DLB	
Eth/lberizene	<1	ugh	EPA 524	4/12/99	SLB	
M-end/or p-xylene	<1	ugit	EPA 824	4/12/99	CLB	
0-Xylene	<1	J@L	EPA 624	4/12/99	DLB	
Toluene	<1	ugs	EPA 624	412/99	218	
Prep SCD	Completed		EPA 3510	4712/99	SAS	
PCB Aroclor 1016	<0.1	ugs	EPA 8082	4/12/99	MSZ	
PCB Arbeior 1221	<01	not.	EPA 8082	4/12/99	MSZ	
PCB Areclar 1232	<01	ug/L	EPA 8082	4/12/99	M.SZ	
PCB Arociar 1242	<01	nav _t	EPA 8082	4/12/89	MSZ	
PCB Aroclor 1248	<01	Jal	EPA 8082	4/12/99	MSZ	
PCB Areclar 1254	<01	Ug/L	EPA 8082	4/12/98	NSZ	
PCB Aroclar 1260	<0.1	ug/L	EPA 8082	4/12/98	MSZ	
PCB Aroclars, total	NA		EPA 8082	4/12/99	MSZ	
12DCA-D4 (surr spx)	103	% spike recevery	EPA 624	4/12/59	CLB	
BFB (surr spk)	106	% spike recovery	EPA 524	4/12/99	DLB	
Tolueno-D8 (surr spk)	98	% spike recovery	EPA 824	4/12/99	DLB.	
OCB (past/PCB surt spic	25	% spike recovery	EPA 8082	4/12/99	MSZ	Low surrogate recovery due to expensed metrix effect
TCMX (sur spk)	10	% spike recovery	EPA 8083	4/12/99	MSZ	

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April 13,1999

121,056.32 GALLONS DISCHARGED TO THE CITY OF KALAMARE FROM MODULAR TANK#2.

KARLaboratories, Inc.

(616) 381-8666

Client: Roy F. Weston, Inc.

May. 10 1999 05:43PM P4

KARLabs 516 881-9888 Fage 3/3

LABORATORY REPORT

KAR Project No.: 991598

Date Reported:

04/13/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-028).

Sample ID: Blank

Sampled By: Sample Date:

Date Received: 4/12/99 Sample Type: aqueous

Sample Type : aqueous KAR Sample No. : 991598-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Сопиления
Prep hg	Completed		EPA 245.2	4/12/99	мти	
Prep metals	Completed		EPA 30xx,200 x	4/12/99	PML	
Cedmium total	<5	ugi	EPA 200.7	41289	PHIL	
Chromium, total	<10	ual	EPA 200.7	4/12/89	PML	
Copper total	<20	ug/L	EPA 200.7	4712/99	PML	
Leed total, by ICP	<50	ugil	EPA 200 7	4/12/99	PML	
Mercury, total low level	<0.2	ug/L	EPA 245.2	4/13/88	PIJL	
Nickel fotel	<20	ucl	EPA 200.7	4/12/95	PML	
Zinc, total	<10	ugil	EPA 200.7	41285	PML	
Cyanide, Iotal	<5	UDAL	EPA 335.2	4/12/99	VAS	
Grevimetic TPH (SGT-HEM)	<8	mg/L	EPA 1664	4/13/99	RJC	
MONR Scan 2	See below		EPA 624	4/12/99	DLE	
Prop VOA	Completed		EPA 624	47200	DLB	
Benzene	<1	nat	EPA 624	4/12/99	DLB	
thylberzene	<1	ug/L	EPA 624	4/12/88	DLB	
M-and/or p-xylene	<1	uQL	EPA 824	4/12/99	DLB	
0-Xylene	<1	ugA	EPA 624	4/12/99	DLB	
Tolvene	<1	ugA	EPA 624	4/12/99	DLB	
Prep. ⊇CD	Completed		EPA 3510	41200	SAS	
PCB Arcolor 1016	<01	ug/L	EPA 8082	412/99	MSZ	
PCB Aroclar 1221	<0.1	ug/L	EPA 8082	4/12/99	MSZ	
PCB Aroclar 1232	<0.1	Jak	EPA 8082	4/12/98	MSZ	
CB Araclar 1242	<0.1	ugit	EPA 8082	47288	MSZ	
PCB Aroclar 1248	<01	UOL	EPA 8082	4/12/99	MSZ	
PCB Aroclar 1254	<01	ual	EPA 8082	4/12/99	MSZ	
PCB Arcelor 1280	<01	Ual	EPA 8082	4/12/99	MSZ	
CB Arociore, total	NA		EPA 8082	4/12/98	MSZ	
20CA-D4 (9UT SPK)	99	% spike recovery	EPA 624	4/12/99	DLB	
FB (sur spl)	108	% spike recovery	EPA 624	412/99	DLB	
civena-D8 (suit solo	97	% spike recovery	EPA 824	472799	DLB	
CB (pest/PCB aust spik)	79	% spike recovery	EPA 8082	472/99	MSZ	
CMX (SLET SDK)	3.9	% spike recovery	EPA 8082	4/12/59	NSZ	

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. . . .

LABORATORY REPORT

KAR Project No.: 991599

04/12/99 Date Reported:

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-029).

Sample ID: "WW-EFF-029"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date: 4/12/99

Sample Time: 0915

Date Received: 4/12/99 Sample Type: aqueous

KAR Sample No. : 891599-01

Test	Rusult	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 35:0	41298	SAS	
PCB Arctlor 1016	<0.1	va1	EPA 8082	4/12/99	MSZ	
PCB Arociar 1221	<0.1	ugi	EPA 8082	4/12/88	MSZ	
PCB Arociar 1232	<01	ugs	EPA 8082	4/12/59	MSZ	
PCB Arcelor 1242	<0.1	ugh	EPA 8082	4/12/56	MSZ	
PCB Arcciar 1248	<01	ndv.	EPA 5082	4/12/59	MSZ	
PCB Aroclar 1254	<0.1	ugh	EPA 8082	4/12/99	MBZ	
PCB Aroclar 1260	<0.1	yar	EPA 8082	4/12/95	MSZ	
PGB Aroclors, total	NA		EPA 8082	4/12/88	MSZ	
DCB (pesuPCB sur spik)	34	% spike recovery	EPA 8082	472795	MSZ	
TCMX (surt spix)	17	% spike receivery	EPA 8082	4/12/55	MSZ	

April 13, 1999

DISCHARGED 126, 820.91

GALLONS OF TREATED WATER

TO THE CITY DE KAGMARDO.

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KAR Laboratories, Inc. (616) 381-9666

KAR Project No.: 991599

Date Reported:

04/12/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-029).

Sample ID: Blank

Client: Roy F. Weston, Inc.

Sampled By:

Sample Date : Sample Time: Date Received : Sample Type:

412/98 aqueous

KAR Sample No.: 991599-02

Result Units of Measure Method Analyzed Analyst Comments Test Prop ECD Completed EPA 3510 4/12/99 SAS EPA 8082 4/12/99 PCB Aroclar 1018 <01 MSZ EPA 8082 PCB Aroclar 1221 <0,1 412/89 MSZ ug/L EPA 8082 <01 4/12/95 MSZ PCB Aroclar 1232 uc.14/12/95 PCB Aroclor 1242 <01 uq/L EPA 8082 MS. <01 4/12/99 MSZ PCB Arcclar 1248 JOL EPA 8082 PCB Arcolar 1254 <01 EPA 8082 472/59 MSZ UUL EPA 8082 MSZ <01 PCB Arcelor 1260 UUL 4/12/53 NA 412/95 MSZ EPA 8082 PCB Arcclars, total 79 EPA 8082 DCB (past/PCB sur spk) % spike recovery 4/12/59 MSZ TCMX (sur spk) 39 % spike recovery EPA 8082 41288 MSZ

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FROM: ROY F WESTON, INC. 84/15/99 13:26 To:Mr. Tim Laguerra PHONE NO. :

From: Sandy Mertz

May. 10 1999 05:44PM P7

KAPLabs 515 361-5693 Page 2/3

LABORATORY REPORT

KAR Project No.: 991685

Date Reported:

04/16/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-030).

Sample ID:

"WW-EFF-030"

Sampled By: OGN of Roy F. Weston

Client: Roy F. Weston, Inc.

Sample Date: 4/18/99

Date Received:

4/15/99 2QU90US

Sample Type:

KAR Sample No.: 991685-01

Sample Time: 1020			KAR		No.: 991685-01	
Test	Result	Units of Measure	Method	Analyzed		Comments
Prop SCD	Completed		EPA 35:0	4/15/38	\$A\$	
PCB Araclar 1018	<0.1	ug/L	EPA 8082	4/15/99	M:SZ	

Prop ECD	Completed		EPA 35:0	4/15/38	\$A\$	
PCB Araclar 1018	<0.1	ug/L	EPA 8082	4/15/99	MSZ	
PCB Arcclor 1221	<0.1	ug/L	EPA 8082	4/15/80	MSZ	
PCB Aroclar 1232	<0.1	אסע	EPA 8082	4/15/99	MSZ	
PCB Arcdor 1242	<0.1	ual	EPA 8082	4/15/99	MSZ	
PCB Arcciar 1248	<0.1	ua/L	EPA 8082	4/15/98	MSZ	
PCB Araclar 1254	40.1	ug/L	EPA 8082	4/15/99	мsz	
PCB Aroclar 1260	<0.1	ugs	EPA 8082	4/13/33	MSZ	
PCB Arociors, total	NA		EPA 8082	415.08	MSZ	
DCB (pest/PCB sur spit)	17	% spike recovery	EPA 8082	4/15/88	MSZ	Low surrogete recovery due to appearent metrix effect.
TCMX (sur spici	€.5	% зріке лесочету	EPA 8082	4/15/99	MSZ	

April 16, 1999

DISCHARGED 118, 174.03

GALLONS OF THEATED WATER

TO THE CTY OF KALAMAZEO.

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Client: Roy F. Weston, Inc.

May. 10 1999 05:45PM P8 KARlabs 515 381-9698 Page 3/3

LABORATORY REPORT

KAR Project No.: 991685

Date Reported: 04/16/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-030).

Sample ID: <u>Blank</u>

Sampled By:

Sample Date :

Sample Time:

Date Received: 4/15/99

Sample Type: aquecus

KAR Sample No.: 991685-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 3510	4/15/59	SAS	
PCB Aroclar 1016	<0.1	ug/L	EPA 8082	4/15/58	MSZ	
PC8 Aroclar 1221	<01	ug/L	EPA 8082	415/59	MSZ	
PCB Aroclar 1232	<01	ua∕L	EPA 8082	4/15/59	M.S.Z	-
PCB Aroclar 1242	<01	uo/L	EPA 8082	4/15.79	MSZ	
PCB Aroclar 1248	<0.1	ug/L	EPA 8082	4/15/99	NSZ	
PCB Araclar 1254	<0.1	ugs	EPA 8082	4/15/08	MSZ	***
PCB Araclar 1280	<0.1	ugh	EPA 8082	4/15/99	MSZ	
PCB Aroclars, total	NA		EPA 8082	4/15/98	MSZ	
DCB (pest/PCB surr spk)	<i>7€</i>	% spike recovery	EPA 8082	4/15/89	MSZ	
TCMX (sur epil)	120	% spike recovery	EPA 8082	475.89	MSZ	-

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KAR Project No.: 991700

Date Reported:

04/19/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-031).

Sample ID: "WW-EFF-031"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date: 4/16/1999

Sample Time: 1010

Date Received: 4/16/1999

Sample Type: aqueous

KAR Sample No.: 991700-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 3510	47 8/1988	SAS	
PC8 Aroclor 1016	<0.1	ug/L	EPA 8082	4/16/1995	M.SZ	
PCB Arociar 1221	<01	ug/L	EPA 8082	41 6/1885	MSZ	
PCB Aroclar 1232	<01	ug/L	EPA 8082	4/18/1999	NSZ	
PCB Araclar 1242	<01	ug/L	EPA 8082	4/16/1989	M.SZ	
PCB Aroclor 1248	<01	Ugh	EPA 8082	4/16/1999	MSZ	
POB Arodor 1254	<0.1	ugh	EPA 8082	416,1558	MS2	
PCB Aroclar 1260	<01	Ual	EPA 8082	4/16/1999	MSZ	
PCB Aroclors, total	NA		EPA 8082	4767988	MSZ	
DCB (pest/PCB sur spil)	28	% spike recovery	EPA 8082	4/16/1998	MSZ	
TCMX (sur spk)	9.2	% spike recovery	EPA 8082	4/16/1599	MSZ	

April 17, 1999
DISCHARGED 70, 616.19
GALLONS OF TIZEATED WATER
FROM MODULAN TANK #2 TO THE CITY OF KALAMAZOO.

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Client: Roy F. Weston, Inc.

PHONE NO. : From: Kathy Elosi

May. 10 1999 05:46PM P10 KAPLabs 516 361-9593 Page 3/3

LABORATORY REPORT

KAR Project No.: 991700

Date Reported: 04/19/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-031).

Sample ID: Blank

Sampled By:

Sample Date: Sample Time: Date Received: 4/16/1999

Sample Type: aqueous

KAR Sample No.: 991700-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	4/16/1999	SAS	
PCB Arcciar 1016	<0.1	ug/L	EPA 8082	4757599	MSZ	
PCB Aroclor 1221	<c 1<="" td=""><td>ug/L</td><td>EPA 8082</td><td>4/16/1969</td><td>MSZ</td><td></td></c>	ug/L	EPA 8082	4/16/1969	MSZ	
PCB Aroclar 1232	<0.1	va/L	EPA 8082	4/16/1999	MSZ	
PCB Aroclor 1242	<01	ugl	EPA 8082	4787999	M92	
PCB Aroclor 1248	<01	ug/L	EPA 8082	4/16/1995	MSZ	
PCB Aroclar 1254	<0.1	UQL	EPA 8082	4M 6M 999	N.SZ	
PCB Arociar 1260	<01	UOL	EPA 8082	4/16/1999	MSZ	
PCB Aroclors, total	NA		EPA 8082	4/18/1999	MSZ	
DCB (pest/PCB surr spit)	80	% sp ke recovery	EPA 8082	4/18/1999	MSZ	
TCIAX (surt spk)	53	% spike recovery	EPA 8082	4/18/1893	MSZ	

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KAR Laboratories, Inc. (616) 381-9666

KAR Project No.: 991720

Client: Roy F. Weston, Inc. Date Reported: 04/20/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-032).

Sample ID: "WW-EFF-032"

Sampled By: OGN of Roy F. Weston

Sample Date: 4/19/1999 Sample Time: 0960

Date Received: 4/19/1999

Sample Type: aqueous

KAR Sample No.: 991720-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Corrents
Pres. Hg	Completed		EPA 7470	4/19/1959	DBL	
Prep, -metals	Completed		EPA 30XX, 200 X	4/19/1999	MTM	
Cedmium, total	Cancalled			4/20/1989	<i>X</i> XX	Analysis was cancelled by cliant provide completion.
Chromium, lotel	Cancelled			1/20/1995	xxx	Analysis was concelled by stient grow to completion
Copper total	Cancelled			4/20/1999	XXX	Analysis was cancalled by client prior to completion.
Lead, total, by ICP	Cancelled			4/20/1999	XXX	Analysis was carrelled by client pronts completion.
Mercury, lotal, low level	Cancelled			4/20/1999	XX	Analysis was cancelled by calent proof to completion.
Nickel, total	Cancelled			4/20/1999	XXX	Analysis was cancelled by client provide completion
Zinc, total	Cancelled			4/20/1999	XXX	Arelysis was denouled by client provide completion.
Cyanide, total	Cancelled			4/20/1989	xxx	Analysis was cancelled by client provide completion.
Gravmetric TPH (SGT-HEM)	<5	mg/L	EPA 1864	4797998	RJC	
PH	7.8	5.U	EPA 150 1	4/19/1999	POH	
MDNR Scan 2	See below		EPA 624	4/19/1999	DLB	
Pred VOA	Completed		EPA 624	419/1999	DLB	
Benzene	<1	vol	EPA 824	2797999	DLB	
Etnylbenzene	<1	uq/L	EPA 824	4/19/1999	DLB	
M-enc/or p-xylene	<1	ug/L	EPA 624	4/19/1999	DL8	
0-Xylene	1<1	ug/L	EPA 624	4/19/1999	DLB	
Toluene	<1	ugiL	EPA 624	4/19/1999	DLB	
Prep. ECO	Completed		EPA 3510	4/19/1988	MJY	
PC8 Aroclor 1016	<0.1	υg/L	EPA 8082	4/20/1999	MSZ	_
PCB Aroclar 1221	<0.1	ual	EPA 8082	4/20/1999	MSZ	
PCB Aroclor 1232	<0.1	ug/L	EPA 8082	4/20/1999	MSZ	
PCB Aroclar 1242	<01	ual	EPA 8082	4/20/1999	MSZ	
PCB Aroclar 1248	<0.1	ug/L	EPA 8082	4/20/1999	MSZ	
PCB Arociar 1254	<01	ug/L	EPA 8082	4/20/1999	MSZ	
PCB Aroclar 1260	<01	ual	EPA 8082	4/20/1998	MSZ	
PCB Arociors, total	NA		EPA 8082	4/20/1999	MSZ	
12DCA-D4 (surr spk)	99	% spike recovery	EPA 624	4797999	DLB	

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Page 2

April 20, 1999 DISCHARGED 116,732.88 GALLONS OF TREATED WATER TO THE CITY OF KALAMAZOD From Modular TANK#1.

KAR Project No.: 991720 Date Reported:

Client: Roy F. Weston, Inc.

04/20/98

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-032).

Sample ID: Blank

Sampled By:

Sample Date:

Date Received: 4/19/1999

Sample Type: aqueous

KAR Sample No : 991720-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Grevimstic TPH (SGT-HEM)	<5	mg/L	EPA 1664	4127958	RJC	
MDNR Scan 2	See below		EPA 824	4/19/1995	CLB	
Prep VOA	Completed		EPA 624	4/19/1999	DLB	
Benzane	<1	ual	EPA 824	4/19/1995	DLB	
Ethylbanzana	<1	ug/L	EPA 624	4/19/1989	DLB	
M-end/or p-xylene	<1	אבנו	EPA 624	47971999	DL5	
Q-Xylene	<1	ug/L	EPA 624	4/19/1888	DLB	
Toluene	<1	ugl	EPA 824	4/19/1995	DLB	
Prep ECD	Completed		EPA 3510	4/19/1999	MJY	
PCB Aroclor 1016	<01	ug.L	EPA 8082	4/20/1999	MSZ	
PCB Aroclor 1221	<01	ug/L	EP.4 8082	420/1988	MSZ	
PCB Areclar 1232	<0.1	ug/L	EPA 8082	4/20/1999	MSZ	
PCB Araciar 1242	<01	ug/L	EPA 8082	4/20/1698	MS2	
PCB Arociar 1248	<01	ug1_	EPA 8082	4/20/1988	M:SZ	
PCB Aroclar 1254	<0.1	ug/L	EPA 8082	4/20/1999	MSZ	
PCB Arociar 1260	<01	ugiL	EPA 8082	4/20/1999	MSZ	
PCS Arociors, total	NA		EPA 8082	4/20/1999	MSZ	
12DCA-D4 (SUT SPK)	96	% spike recovery	EPA 524	4/19/1999	DLB	
BFB (surr spk)	106	% spike recovery	EPA 824	47 9/1 989	DLB	
Toluene-D8 (surr spk)	96	% spike recovery	EPA 624	4/19/1998	DLB	
DCB (pest/PCB surr spk)	80	% spike recovery	EP4 8082	4/20/1969	MSZ	
TCMX (surt spk)	23	% spike recovery	EPA 8082	4/20/1589	MSZ	<u></u>

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Client: Roy F. Weston, Inc.

KAR Project No.: 991745

Client: Roy F. Weston, Inc.

Date Reported: 04/21/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-033).

Sample ID: "WW-EFF-033"

Sampled By: NA of Roy F. Weston

Sample Date: 4/20/99

Date Received: 4/20/99
Sample Type: squeous
KAP Sample No.: 991745 01

Test	Result	suit Units of Measure	Method	Analyzed	Analyst	Comments
		Oraca of measure				CONTRIBUTES
Prep. Hg	Completed		EPA 245.2	4/21/99	MTM	
Prep metals	Completed		EPA 30xx,200x	4/21/99		
Cadmium, total	<5	ugl	EPA 200.7	4/21/59	PML	
Chromium, tatal	<10	นอกั	EPA 200 7	4/21/99	PVL	
Copper, total	<20	ug/L	EPA 200 7	4/21/99	PML	ļ
Leed total, by ICP	<50	ug/L	EPA 200.7	421/99	PML	
Mercury, total low level	<02	ugs	EPA 245.2	4/21/99	PML	
Nickel, total	<20	upl	EPA 200.7	4/21/95	PML	
Zinc, total	<10	ug/L	EPA 200.7	4/21/99	PML	
Cyanide, total	<5	ug/L	EPA 335.2	4/21/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	4/21/05	RJC	
PH	78	S.U	EPA 150.1	4/20/99	POH	
MDNR Scan 2	See below		EPA 624	4/21/99	DLB	
Prep. VOA	Completed		EPA 624	4/21/99	DLB	
Bersene	<1	ug/L	EPA 624	4/21/95	DLB	
Ethylbenzene	<1	ugf	EPA 624	4/21/98	DLB	
Vi-end/or p-xylene	<1	ug/L	EPA 524	4/21/95	DLB	
O-Xylene	<1	uc1	EPA 624	4/21/99	DLB	
Tclueno	<1	ugiL	EPA 624	421/99	DLB	
Pres SCD	Completed		EPA 3510	4/21/99	SAS	
PCB Araclar 1016	<01	ugl	EPA 8082	4/21/99	MSZ	
PCB Aroclor 1221	<0.1	ugz	EPA 8082	4/21/99	MSZ	
PCB Aroclar 1232	<0.1	ugiL	EPA 8082	421/95	MSZ	
PCB Aroclor 1242	<01	UQL	EPA 8082	4/21/99	MSZ	
PCB Aroclar 1248	<0.1	ug/L	EPA 8082	421/88	MSZ	
PCB Aroclar 1254	<01	sal	EPA 8082	4/21/89	MSZ	
PCB Araciar 1280	<0.1	ug/L	EPA 8082	4/21/99	MSZ	
PCB Arociors, total	NA		EPA 8082	4/21/99	MSZ	
12DCA-D4 (surt spk)	94	% spike recovery	EPA 624	4/21/99	DLB	
FB (surt spk)	104	% spike recovery	EPA 824	4/21/99	DLB	
Taluene-D8 (sur spk)	95	% spike recovery	EPA 624	4/21/99	DLB	
OCB (pest/PCB surt spli)	27	% spike recovery	EPA 8082	4/21/99	MSZ	Lan surrogate recovery due to apparent metrix effect
TCMX (surt spl.)	18	% spike recovery	EPA 8082	4/21/99	MSZ	

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KARLaboratories, Inc.

(618) 381-9666

Page 2

April 21, 1999
DISCHARGED 121, 056.32
GALLONS OF TREATED WATER
TO THE CITY OF KALAMAZOC
FROM MODULAN TANK#2.

PHONE NO. : From: Sandy Mertz

May. 10 1999 05:48PM P14 KARLabs 516 381-9638 Page 3/3

LABORATORY REPORT

KAR Project No.: 991745 Client: Roy F. Weston, Inc. Date Reported: 04/21/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-033).

Sample ID: Blank

Sampled By:

Sample Date: Sample Time: Date Received: 4/20/99

Sample Type: squeous KAR Sample No.: 991745-02

Sample time.		-	Tour dampie No.: 337740-02				
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments	
Ргер, на	Completed		EPA 245.2	4/21/99	МТМ		
Prep metals	Completed		EPA 30xx, 200 x	4/21/99	PML		
Cadmium total	<5	ug/L	EPA 200.7	4/21,99	PML		
Chromium, total	<10	UQL	EPA 200 7	4/21/99	PML		
Copper total	<20	ugh	EPA 200 7	4/21/99	PML		
Lead, total, by ICP	< <i>50</i>	ugL	EPA 200 7	421/85	PML		
Mercury, total low level	<02	ugl	EPA 245.2	4/21/90	PML		
Nickel, total	<20	ug/L	EPA 200 7	4/21/99	PML		
Zinc, total	<10	ug:1	EPA 200 7	4/21/99	PML		
Cyenide, totai	<5	ugl	EPA 335,2	4/21/89	VAS		
Grevimetic TPH (SGT-HEM)	<5	mg/L	EPA 1664	4/21/99	RJC		
MDNR Scan 2	See below		EPA 624	4/21/99	DLB		
Prep, VOA	Completed		EPA 824	4/21/29	DLB		
Benzene	<1	ug/L	EPA 824	4/21/99	DLB		
Ethylbenzene	<1	ug/L	EPA 624	4/21/98	DLB		
M-end/or p-xylene	<1	Ug/L	EPA 824	4/21/89	DLB		
0-Xylene	<1	ug/L	EPA 824	4/21/89	DLB		
Tcluene	<1	ug/L	EPA 824	4/21/99	DLB_		
Prop. ECD	Completed		EPA 3510	4/21/98	SAS		
PCB Arccior 1016	<01	JQ/L	EPA 8082	4/21/99	MSZ		
PCB Aroclar 1221	<01	ug/L	EPA 8082	4/21/99	MSZ		
PCB Arociar 1232	<01	UQIL	EPA 8082	4/21/99	MSZ		
PCB Araclar 1242	<01	Jol	EPA 8082	421/98	M.SZ		
PCB Arcclor 1248	<01	עפע	EPA 8082	4/21/99	MSZ		
PCB Aroclar 1254	<01	ug/L	EPA 8082	4/21/99	MSZ		
PCB Arcelor 1260	<01	υ α /L	EPA 8082	4/21/99	MSZ		
PCB Aroclars, total	NA		EPA 8082	4/21/99	MS2		
20CA-D4 (SUIT SDK)	92	% spike recovery	EPA 624	421,98	DLB		
FB (sur spk)	105	% spike recovery	EPA 824	4/21/85	DUB		
civene-D8 (surr spk)	9€	% spike recovery	EPA 624	4/21/99	DLB		
DCB (pest/PCB surr spk)	87	% spike recovery	EPA 8082	4/21/95	MSZ		
TCMX (sur spk)	39	% spike recovery	EPA 8082	4/21/99	MSZ		

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1

LABORATORY REPORT

KAR Project No.: 991783

Date Reported: 04/22/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-034).

Sample ID: "WW-EFF-034"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Date Received: 4/22/1999

Sample Date: 4/22/1999

Sample Time: 0906

KAR Sample No.: 991783-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments		
Prep, ECD	Completed		EPA 3510	4/22/1988	MJY			
PCB Aroclor 1016	<01	ug/L	EPA 8082	4/22/1999	MSZ			
PCB Aroclar 1221	<c.1< td=""><td>ugs</td><td>EPA 8082</td><td>42271899</td><td>MSZ</td><td></td></c.1<>	ugs	EPA 8082	42271899	MSZ			
PCB Arociar 1232	<01	Jg/L	EPA 8082	4/22/1999	MSZ			
PCB Aroclar 1242	<01	ugi	EPA 8082	4/22/1999	MSZ			
PCB Aroclar 1248	<01	ug/L	EPA 8082	4/22/1885	MSZ			
PCB Aroclar 1264	<01	ugs	EPA 8082	4/22/1899	MSZ			
PCB Aroclar 1260	<01	UDA	EPA 8082	4/22/1599	MSZ			
PCB Aroclars, total	NA		EPA 8082	4/22/1999	MSZ			
DCB (pest/PCB sur spk)	43	% spike recovery	EPA 8082	4/22/1999	MSZ			
TCMX (sur spk)	20	% spike recovery	EPA 8082	4/22/1999	MSZ			

April 22, 1999

PISCHARGED 122, 497.33

GRUOTS OF TREATED WATER

TO THE CITY OF KACAMAEDO

FROM MODUCAR TANK# 1.

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FROM : ROY F WESTON, INC.

May. 10 1999 05:49PM P16 KAPLabs 516 381-9898 Page 3/3

04/22/99

LABORATORY REPORT

KAR Project No.: 991783

Client: Roy F. Weston, Inc. Date Reported:

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-034).

Sample ID: <u>Blank</u>

Sampled By: Sample Date : Sample Time : Date Received: 4/22/1899

Sample Type: aqueous

KAR Sample No.: 991783-02

Sample time.					NAR Sample No. : 331/83-02			
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments		
Prep. ECD	Completed		EPA 3510	4/22/1998	MJY	-		
PCB Araclar 1018	<0.1	ug/L	EPA 8082	4/22/1999	M.SZ			
PCB Aroclar 1221	<01	ugh	EPA 8082	4/22/1999	MS2			
PCB Aroclar 1232	<01	ug/L	EPA 8082	4/22/1989	MSZ			
PCB Aroclor 1242	<0.1	ug/L	EPA 8082	4/22/1859	M.SZ			
PCB Arociar 1248	<0,1	ug/L	EPA 8082	4/22/1998	MSZ			
PCB Aroclar 1254	<0.1	ugl	EPA 8082	4/22/1999	MSZ			
PCB Araciar 1260	<0.1	ug/L	EPA 8082	4/22/1999	MSZ			
PCB Arcciors, total	NA		EPA 8082	4/227885	MSZ			
DCB (pest/PCB surr spir)	92	% spike recovery	EPA 8082	4/22/1999	MSZ			
TCMX (aut apk)	49	% spike recovery	EPA 8082	42211989	MSZ			

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May. 10 1999 05:49PM P17 KARlabs 516 381-9698 Page 2/3

LABORATORY REPORT

KAR Project No.: 991839

Client: Roy F. Weston, Inc.

Date Reported:

04/26/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-035).

Sample ID: "WW-EFF-035"

Sampled By: OGN of Roy F. Weston

Sample Date: 4/23/1999 Sample Time: 1600

Sample Type: aqueous

Date Received: 4/23/1999

KAR Sample No.: 991839-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prop. ECD	Completed		EPA 35'0	4/23/1999	MJY	
PCB Aroclar 1018	<01	ug1	EPA 8082	4/23/1999	MS2	
PCB Aroclar 1221	<0.1	ug/L	EPA 8082	4/23/1999	MSZ	
PCB Aroclar 1232	<0.1	JOL	EPA 8082	4/23/1999	MSZ	
PCB Aroclar 1242	<0.1	ugl	EPA 8082	4/23/1999	MSZ	
PCB Arociar 1248	<01	ual	EPA 8082	4/23/1998	MSZ	
PCB Arociar 1254	<0.1	ug/L	EPA 8082	4/23/1989	MSZ	
PGB Aroclar 1260	<0.1	UOL	EPA 8082	4/23/1999	MSZ	
PCB Arociors, total	MA		EPA 8082	4/23/1999	MSZ	
OCB (DESIPCB SUT SPX)	24	% spike recovery	EPA 8082	4/23/1999	MSZ	Low surrogate recovery due to apparent matrix effect.
TCMX (SUIT SOK)	€.5	% spike recovery	EPA 8082	4/23/1999	MSZ	

April 24, 1999 DISCHARGED 85,027.65

GALLONS OF TREATED WATER

TO THE CITY OF KALAMAZED

From Mossuan TANK#2.

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KAR Laboratories, Inc.

(616) 381-9666

Client: Roy F. Weston, Inc.

May. 10 1999 05:49PM P18 KARLabs 615 381-9698 Page 3/3

LABORATORY REPORT

KAR Project No.: 991839

Date Reported:

04/26/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-035),

Sample ID: <u>Blank</u>

Sampled By:

Sample Date: Sample Time : Date Received: 4/23/1998

Sample Type: aqueous

KAR Sample No.: 991839-02

Test	Result	Units of Measure	Method	Analyzed	Analysi	Comments
Prep ECD	Completed		EPA 35:0	4/23/1999	YLM	
PCB Aroclar 1016	<0.1	ugh	EPA 8082	4/23/1999	MSZ	
PCB Aroclar 1221	<0.1	ugl	EPA 8082	4/23/1999	MSZ	
PCB Aroclor 1232	<0.1	401	EPA 8082	4/23/1599	MSZ	
PCB Araclar 1242	<0.1	ugiL	EPA 8082	4/23/1999	MSZ	
PCB Aroclar 1248	<0.1	ugvi	EPA 8082	4/23/1999	MSZ	
PC8 Arador 1264	<0.1	ugz	EPA 8082	4/23/1999	MSZ	
PCB Araclar 1260	<0.1	val	EPA 8082	423/1999	MSZ	
PCB Aroclors, total	NA		EPA 8082	4/23/1998	MSZ	
OCB (pest/PCB surr spk)	61	% spike recovery	EPA 8082	4/23/1999	MSZ	
TCMX (surt spk)	31	% spike recovery	EPA 8082	4/23/1999	MSZ	

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KAR Project No.: 991866

04/27/99 Date Reported:

Project Description: Analysis of one sample from Kalamazoc River Superfund (WW-EFF-036).

Sample ID: "WW-EFF-036"

Client: Roy F. Weston, Inc.

Sampled By: NA of Roy F. Weston

Sample Date: 4/26/99

Sample Time: 0830

Date Received: 4/26/99

Sample Type : equecus

KAR Sample No.: 991866-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo hg	Completed		EPA 245 2	425/85	PML	
Preo, metals	Completed		EP4 30xx, 200 x	4/28/99	MTM	
Cadmium total	<5	ugi	EPA 200.7	428.56	PML	
Chromium, total	<70	ug/L	EPA 200,7	4/25/99	PML	
Copper total	<20	ua1	EPA 200 7	4/28/55	PML	
Lead total, by ICP	<50	ug/L	EPA 200 7	426/59	PML	
Morcury lotal fow level	<02	lugA	EPA 245.2	4/27,55	PML	
Nicker total	<20	ugh	EPA 200 7	4/25/99	PML	
Zinc. total	20	ual	EPA 200.7	4/25/58	PAIL	
Cyanide, totai	<5	uar	EPA 335.2	4/27/59	JMS	
Gravingtic TPH (SGT-PEM)	<5	mg/L	EPA 1664	42555	RJC	
7	77	\$ U	EPA 150 1	4/28/99	SML	
ADNR Scen 2	See Selow		EPA 624	422.58	DLB	
TED VOA	Completed		EP4 624	4/26/55	DLB	
enzeræ	<1	uç/L	EP4 624	4/25/55	DLE	
Vryiterz e ne	<1	ug/L	EPA 624	4/25/99	DLB	
A-enator p-xylene	<1	vg/L	EPA 624	4/25/55	5LB	
)-Xylene	<:	Ug.1.	EPA 624	4/25/55	CLB	
Tolvene	<1	ug/L	EPA 624	4/25/55	DLB	
Prep ECD	Completed		EPA 3510	4/25,95	MJY	
CB Arcclor 1015	<0.1	ug/L	EP4 8082	4/27,55	MSZ	
CB Arcelar 1221	<0.1	JCL	EPA 8082	47.55	MSZ	
PCB Arcelor 1232	<01	Jal	EPA 8082	4/27/55	MSZ	
CB Aroclar 1242	<01	ug1	EPA 8082	427,55	MSZ	
PGS Arcolar 1248	<0.1	ug1	EPA 8082	4/27,55	MS2	
PCB Aroclar 1254	<c 1<="" td=""><td>navr</td><td>EPA 8082</td><td>6/27/55</td><td>MSZ</td><td></td></c>	navr	EPA 8082	6/27/55	MSZ	
CB Araclar 1260	<0.1	ugh	EPA 8082	42:755	MSZ	
PCB Araclors, total	NA		EPA 8082	427,55	MSZ	
2DCA-D4 (sur sok)	93	% spike recevery	EPA 624	4/26/55	D/B	
SFB (sur spk)	102	% so ke recovery	EPA 624	428.55	CLB	
Tcluene-D8 (sur spk)	197	% spike recovery	EP4 624	4/26/55	CLB	
OCB (pest/PCB sur spk)	30	% sake recovery	EPA 8082	4/27/55	MSZ	
TCMX (sur spk)	11	% spike recevery	EPA 8082	4/27/55	MSZ	

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KARLaboratories, Inc.

(616) 381-9666

Page 2

April 28, 1999 DISCHARGED 123,938.61

9ALLONS OF THEOREM WATER

TO THE CITY OF KALAMAROO

FROM HODILAR TANK #2.

KAR Project No.: 991866

Date Reported: 04/27/99

Client: Roy F. Weston, Inc.

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-036).

Sample ID: Blank

Sampled By: Date Received: 4/26/99

Sample Date: Sample Type: squeous

Sample Time: KAR Sample No.: 991886-02

Sample Time :		KAR Sample No.: 991886-02				
Test	Result	Units of Measure	Method	Analyzed	Analyst	Consuents
Prep, Hg	Completed		EPA 245 2	4/26/99	PML	
Prep metals	Completes		EPA 30xx, 200 x	4/26/99	MTM	
Cadmium fotal	<5	ug/L	EPA 200 7	426.99	PML	
Çhromijum, total	<10	val	EP4 200 7	4/26/95	PML	
Copper total	<20	19/L	EPA 200 7	W26/55	PML	
Lead total by ICP	<50	ug/L	EPA 200 7	4/28/95	PML	
Mercury total low level	<02	Jar	EPA 245 2	4/27/55	PML	
Nicke: total	<20	ug/L	EPA 200 7	428/55	PML	
Zine, texal	<10	ug/L	EPA 200 7	4/26/99	PML	
Cyanide, Ictal	₹5	ual	EPA 335 2	4/27/99	JM,S	
Gravimetric TPH (SGT-HEM)	<5	mal	EPA 1664	4/26/69	RJC	
NR Scan 2	See belgw		EPA 824	4/28/95	OLB	
. OD VOA	Completed		EPA \$24	4/26/65	CLB	
enzene	<1_	ug/L	EPA 824	4/28/99	CLB	
Ethylben zana	<1	ug1	EPA 624	4/26/95	DLB	
M-and/or p-xylene	<1	ug/L	EPA 624	4/25/95	DL8_	
0-Xylene	<1	ug/L	EPA 824	4/26/55	OLB	
Toluene	<1	UQIL	EPA 624	4/28/55	DLB	
Pres ECD	Completed		EP4 35'0	426/96	VJY	
PCB Arocior 1016	<01	l ugv.	EPA 3082	4/27/55	MSZ	
PCB Arcclar 122'	<01	ug/L	EPA 8082	4/27/59	MSZ	
PC8 Arcelor 1232	<01	39,2	EP4 8082	4/27/58	MSZ	
CB Araclar 1242	<0.1	wal	EPA 8082	1/27/99	MS2	
CB Aroclar 1248	<01	JOIL	EPA 8082	4/27,85	MSZ	
PCB Aroclar 1254	<0.1	ugh	EPA 8082	W27/55	MSZ	
PCB Aroclar 1280	<01	ugl	EPA 8082	4/27/99	MSZ	
CB Arcclars, total	NA		EPA 8082	427,85	MSZ	
2DCA-D4 (SUT SPK)	92	% spike receivery	EPA 524	4/28/95	DLB	
Fà (sur spi)	100	% spike receivery	EPA 624	4/26/55	DLB	
Cluene-D8 (surr sok)	96	% spike recovery	EP9 824	42635	CLB	
ОСВ (ремИРСВ эціт эркі)	78	% spike recevery	EP4 8082	4/27/55	MS2	
TCMX (surt spk)	33	% spike recovery	EPA 8082	4/27/55	W.SZ	

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KAR Project No. :

991893

Client: Roy F. Weston, Inc.

Date Reported:

04/28/99

Project Description: Analysis of samples from Kalamazoo River Superfund (WW-EFF-

037,038).

Sample ID: "WW-EFF-038"

Sampled By: TL of Roy F. Weston

Sample Date: 4/27/1999 Sample Time: 0860

Date Received: 4/27/1999

Sample Type:

aqueous

KAR Sample No.: 991893-01

paritiple tritle i cocc							
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments	
Prep ECD	Completed		EPA 3510	4/27/1669	MJY		
PCB Aroclor 1016	<01	ugh	EPA 8082	4/28/1999	MSZ		
PCB Arcelor 1221	<0.1	ug/L	EPA 8082	4/28/1999	MSZ		
PCB Arocior 1232	<0.1	ugs	EPA 8082	428/1999	MSZ		
PCB Aroclor 1242	<01	uq∕L	EPA 8082	4/28/1998	MSZ		
PCS Arocior 1248	<01	ug/L	EPA 8082	4/28/1999	MSZ		
PGB Aroclar 1254	<01	ug/L	EPA 8082	4/28/1999	MSZ		
PCB Aroclar 1260	<01	uguL	EPA 8082	4/28/1999	MSZ		
PCB Aroclors, total	NA		EPA 8082	4/28/1999	MSZ		
DCB (pest/PCB surr spk)	31	% spike recovery	EPA 8082	4/28/1599	MSZ		
TCMX (surt spk)	15	% spike recovery	EPA 8082	4/28/1995	MSZ		

April 28, 1999

DISCHARGED 123,938.61

GALLONS OF TREATED WATER

TO THE CITY OX KALAMARDO FROM Moperan Tank # 2.

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KAR Project No.: 991893

Date Reported:

04/28/99

Client: Roy F. Weston, Inc.

Project Description: Analysis of samples from Kalamazoo River Superfund (WW-EFF-

037,038).

Sample ID: Blank

Sampled By:

Date Received: 4/27/1999

Sample Date :

Sample Type : aqueous KAR Sample No.: 991893-03

Sample Time:

Test	Result	Units of Measure	Nethod	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 3510	4/27/1999	MJY	
PCB Aroclar 1016	<0.1	ug/L	EPA 8082	4/28/1999	MSZ	
PCB Aroclar 1221	<0.1	ugz	EPA 8082	4/28/1999	MSZ	
PCB Aracia: 1232	<0.1	ug.1	EPA 8082	4/28/1999	MSZ	
PCB Arociar 1242	<0.1	vg1	EPA 8082	4287999	MSZ	
PCB Aroclar 1248	<0,1	ugil	EPA 8082	4/28/1988	MSZ	
PC8 Aroclar 1254	<0.1	ug/L	EPA 8082	4/28/1989	MSZ	
PCB Aroclor 1260	<0.1	ug1	EPA 8082	4/28/1999	MSZ	
PCB Aroclars, total	NA		EPA 8082	4/28/1999	MSZ	
DCB (pest/PCB sur spk)	83	% spike recovery	EPA 8082	4/28/1959	MSZ	
TCMX (surt spk)	58	% spike recovery	EPA 8082	4/28/7996	MSZ	-

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May. 10 1999 05:52PM P23 KARLabs 516 381-9693 Page 2/3

LABORATORY REPORT

KAR Project No.: 991961

Client: Roy F. Weston, Inc.

Date Reported:

04/30/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-039).

Sample ID: "WW-EFF-039"

Sampled By: TRL of Roy F. Weston

Sample Date: 4/29/99

Sample Time: 1550

Date Received: 4/29/99

Sample Type :

aqueous

KAR Sample No.: 991961-01

Test	Rosult	enuzseM to stinti	Method	Analyzed	Analyst	Comments
Preo ECD	Completeo		EPA 3510	4/30/86	MJY	
PCB Arccior 1015	<0.1	va1	EPA 8082	4/30/59	MSZ	
PCS Arociar 1221	<01	ug1	EPA 8082	4/30/89	MSZ	
PC5 Arccior 1232	<01	Jg/L	EPA 8082	4/30/89	WSZ	
PCB Aroclar 1242	401	ug/L	EPA 2082	4/30/99	MSZ	
PCB Aroctor 1248	<01	ugl	EP4 8082	4/30/99	MSZ	
PCB Arecler 1254	<c1< td=""><td>ugh</td><td>EPA 8082</td><td>4/30/99</td><td>M\$Z</td><td></td></c1<>	ugh	EPA 8082	4/30/99	M\$Z	
PCB Arcelor 1250	<01	ug.1	EP4 8082	4/30/59	MSZ	
PCB Arcelors, total	NA		EPA 8082	4/30/99	MSZ	
DCB (pest/PCB sur spk)	52	% spike recovery	EP4 8082	4/30/99	MSZ	
TCMX (surt spk)	21	% spike recovery	EPA 8082	4/30/96	M:SZ	

April 30, 1999
DISCHARGED 123, 938.61
GALLONS OF TREATUD WATER
TO THE CITY OF KALAMAZOD FROM Modulan Tank #1.

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KAR Project No.: 991961

Date Reported:

04/30/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-039).

Sample ID: Blank

Client: Roy F. Weston, Inc.

Sampled By:

Sample Date : Sample Time :

Date Received: 4/29/98 Sample Type: aqueous

KAR Sample No.: 991961-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo ECD	Completed		EPA 3510	4/30/59	MJY	
PCB Aroclar 1016	<0.1	ug/L	EPA 8082	4/30/99	M.S.Z	
PC8 Arcclor 1221	<0.1	ugh	EPA 8082	4/30/99	MSZ	
PCB Aroclar 1232	<0.1	ugs	EPA 8082	4/30/99	MSZ	
PCB Aroclor 1242	<0.1	ugh	EPA 8082	4/30,58	M.S.Z	
PÇB Arçalar 1248	<0.1	ug/L	EPA 8082	4/30/95	MSZ	
PCB Arcelor 1254	<0.1	UQL	EPA 8082	4/30/99	MSZ	
PCB Arcolar 1280	<0.1	ugs	EPA 8082	4/30/99	MSZ	
PCB Araciars, total	NA		EPA 8082	4/30/98	MSZ	
DCB (pestPCB sur spk)	96	% spike recovery	EPA 8082	4/30/59	MSZ	
TOMX leur spik	35	% spike recovery	EPA 8082	4/30/98	MSZ	

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FROM: ROY F WESTON, INC.

PHONE NO. :

May. 10 1999 05:53PM P25

04/38/99 15:29 To:Mr. Tim Laquerra

From: Sandy Mertz

KARLabs 516 381-9598 Page 2/3

LABORATORY REPORT

KAR Project No.: 991963

Date Reported: 04/30/95

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-040).

Sample ID: "WW-EFF-040"

Client: Roy F. Weston, Inc.

Sampled By: TRL of Roy F. Weston

Sample Date: 4/30/99 Sample Time: 0750 Date Received: 4/30/99
Sample Type: equeous

KAR Sample No.: 981963-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo ECD	Completed		EPA 3510	4/30/59	M.Y	
PCB Arociar 1016	<0.1	UQAL	EPA 8082	4/30/99	MSZ	
PGB Arociar 1221	<0.1	ug1	EPA 8082	4/30/99	MS2	
PCB Aroclor 1232	<0.1	YOK	EPA 8082	4/30/99	MSZ	
PCB Aroclar 1242	<0.1	ug/L	EPA 8082	4/30/55	MSZ	
PCB Arcclor 1248	<0.1	ug.1	EPA 8082	4/30/99	M.S.Z	
PCB Arociar 1254	<0.1	ug/L	EPA 8082	4/30/95	MS2	
PCB Arcciar 1260	<0.1	บอูเโ	EPA 8082	4/30/59	M.SZ	
PCB Aroclors, total	MA		EPA 8082	4/30,55	MSZ	
DCB (pest/PCB sur spic)	48	% spike recovery	EPA 8082	4/30/89	MSZ	
TCMX (surr spk)	18	% spike recovery	EPA 8082	4/30/55	MSZ	

May 1,1999

DISCHANGED 121,056.32 GALLONS OF TREATED WATER TO THE CITY OF KALAMAZOO FROM MODUAN TANK#2.

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KAR Project No.:

991986

Client: Roy F. Weston, Inc.

Date Reported:

05/03/99

Project Description: Analysis of samples from Kalamazoo River Superfund (WW-EFF-037A,

Sample ID:

"WW-EFF-041"

Sampled By: TRL of Roy F. Weston

Sample Date: 5/3/99

Sample Type:

Date Received: 5/3/99 8queous

KAR Sample No.: 991986-02

Sample Time: 0730 KAR Sample No						: 991986-02
Test	Rasult	Units of Measure	Method	Analyzed	Analyst	Convients
Prep EGD	Completed		EPA 3510	5/3/99	YUM	
PCB Araclar 1016	<0.1	ug/L	EPA 8082	5/3/98	MSZ	
PCB Aroclar 1221	<0.1	ug/L	EPA 8082	5/3/99	MSZ	
PCB Aroclar 1292	<0.1	NgA	EPA 8082	5/3/89	MSZ	
PCB Arocior 1242	<0.1	ugs	EPA 8082	5/3/99	MSZ	
PCB Aroclar 1248	<0.1	ug/L	EPA 8082	5/3/99	MS2	
PCB Arcelar 1254	<0.1	UDIL	EPA 8082	5/3/99	MSZ	
PCB Aroclor 1250	<0.1	ugl	EPA 8082	5/3/88	MSZ	
PCB Arcelors, total	NA		EPA 8082	5/3/99	MSZ	
DCB (pest/PCB sur spir)	47	% splke recovery	EPA 8082	5/3/99	MSZ	
TCMX (sur spk)	21	% spike recovery	EPA 8082	5/3/99	MSZ	

May 3,1999

DISCHARGED 121,056.32

GALLONS OF TROOTED WATER

TO THE CITY OF KALAMAROO From Moderan TANK#2.

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PHONE NO. :

From: Sandy Mertz

May. 10 1999 05:53PM P27

KARLabs 516 381-9698 Page 4/4

LABORATORY REPORT

KAR Project No.:

991986

Date Reported:

05/03/99

Project Description: Analysis of samples from Kalamazoo River Superfund (WW-EFF-037A,

041).

Sample ID:

Blank

Client: Roy F. Weston, Inc.

Sampled By:

Date Received: 8/3/99

Sample Date :

Sample Type : 8queous

Sample Time :				KAR Sample No.: 991986-03			
Test	Rasult	Units of Measure	Method	Analyzed	Analyst	Comments	
Prep. ECO	Completed		EPA 3510	5/2/95	YUM		
PCB Arociar 1016	<0.1	ugz	EPA 8082	5/3/99	MSZ		
PCB Aroclar 1221	<0.1	ugl	EPA 8082	5/3/98	MSZ		
PCB Aroclar 1232	<0.1	UQL	EPA 8082	5/3/89	MSZ		
PCB Aroclar 1242	<0.1	ugl	EPA 8082	5/3/99	MSZ		
PCB Arociar 1248	<0.1	ugs	EPA 8082	5/3/99	MSZ		
PCB Aradlar 1254	<.0.1	ug.L	EPA 8082	5/3/99	MSZ		
PCB Arctior 1260	<01	ug/L	EPA 8082	5/3/99	M,SZ		
PCB Aroclors, total	INA		EPA 8082	5/3/09	MSZ		
DCB (pest/PCB surr spk)	87	% spike recovery	EPA 8082	5/3/88	M:SZ		
TCNEX (surt epk)	54	% spike recovery	EPA 8082	5/3/98	MS2		

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KAR Project No.: 991988

Date Reported:

05/04/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-042).

Sample ID: "WW-EFF-042"

Client: Roy F. Weston, Inc.

Sampled By: Sample Date: 5/3/99 Sample Time: 0900

Date Received: 5/3/99 Sample Type: RQUBOUS KAR Sample No.: 991988-01

Test	Rosult	Units of Measure	Nethod	Analyzed	Analyst	Comments
Prep. hg	Completed		EPA 245 2	5/3/58	MTM	
Prep metals	Completed		EPA 30xx,200 x	5/3/99	MTM	
Cedmium, total	<\$	Ug/L	EPA 200 7	5/3/99	PHIL	
Chromium, total	<10	ug/L	EPA 200 7	5/3/99	PML	
Copper total	<20	ugs	EPA 200 7	5/3/96	PML	
Lead total, by ICP	<50	ug/L	EPA 200 7	5/3/98	PML	
Mercury, total low level	<02	ug/L	EPA 245 2	5/4/68	DBL	
Nickel, total	<20	Jol	EPA 200 7	5/3.99	PML	
Zinc total	<10	ugi	EPA 200 7	53.00	PML	
Cyanide, total	<5	JOAL	EPA 335 2	5/3/99	JMS	
Gravmetric TPH (SGT-HEM)	₹ 5	mg/L	EPA 1664	5/4/99	DRA	
PH	78	SU	EPA 150 1	5/3/89	JM:S	
MDNR Scen 2	See below		EPA 624	5/3/99	DLB	
Prep. VOA	Completed		EPA 624	5/3/99	DLB	
Benzene	<1	Ual	EPA 624	5/3/98	DLB	
Ethylbenzene	<1	ugrīL	EPA 624	5/3/99	DLB	
M-and/or p-xylene	<1	Jol	EPA 624	5/3/85	DLB	
O-Xylene	<1	ugs	EPA 624	5/3/95	DLB	
Taluene	<1	ug/1	EPA 624	5/3/59	DLB	
Prep ECD	Completed		EPA 3510	5/3/99	MJY	
PCB Arcclor 1016	<01	ug/L	EPA 8082	5/3/99	MSZ	
PCB Arociar 1221	<0.1	ug/L	EPA 8082	5/3/99	MSZ	
PCB Aroclor 1232	<01	ששל	EPA 8082	53399	MSZ	
PCB Aroclor 1242	<01	Ugil	EPA 8082	5/3/99	MSZ	
PCB Arcelor 1248	<0.1	ugA	EPA 8082	5/3/98	MSZ	
PCB Arocior 1234	<01	ug/L	EPA 8082	5/3/99	MSZ	·
PCB Aroclar 1260	<01	ug/L	EPA 8082	5/3/95	MSZ	
PCB Arockers, total	NA		EPA 8082	5339	MSZ	
12DCA-D4 (sur spk)	103	% spike recovery	EPA 624	5/3/95	اهاد	
EFB (surr spk)	105	% spike recovery	EPA 624	5/3/59	عات	
Toluene-D8 (sur spk)	97	% sake recovery	EPA 524	5/3/95	DLB	
DCB (DESUPCE SUIT SON)	33	% spike recovery	EPA 8082	53/88	MSZ	
TOHIX (suit spk)	12	% spike recovery	EPA 8082	5/5/59	MSZ	

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KARLaboratories, Inc. (616) 381-9886

Page 2

May 04, 1999 DISCHAMGED 121,056.32 GALLONS OF TREATED WATER TO THE CITY OF KALAMAROO From Moderan TANK#1.

Client: Roy F, Weston, Inc.

May. 10 1999 05:54PM P29 KAPLabs 515 381-9699 Page 3/3

LABORATORY REPORT

KAR Project No.: 991988

Date Reported: 05/04/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-042).

Sample ID: Blank

Sampled By:

Sample Date:

Compie Time

Date Received: 5/3/99

Sample Type: aqueous
KAR Sample No : 991988.02

Test	Units of Measure	Method	Analyzed	Anahari	nalyst Comments	
	Result	OUMS OI WASSONS				Comments
Ртео На	Completed		EPA 245 2	5/3/99	мтм	
Prap, metals	Completed	- 	EPA 30xx,200 x	5/3/98		
Cedmium total	<5	JQ∕L	EPA 200 7	5/3/99		
Chromium, total	<10	yol.	EPA 200 7	5/3/99	PML	
Copper, total	<20	ug/L	EPA 200 7	5/3/99	PML	
Lead, total, by ICP	<50	ug/L	EPA 200.7	5/3/99	PML	
Mercury, total, low level	<02	ug/L	EPA 7470A	5/4/96	DBL	
Vicket total	<20	ug/L	EPA 200 7	5/3/89	PML	
Zinc, total	<10	Jg/L	EPA 200 7	5/3/99	PML	
Cyanide, total	<5	ual	EPA 335.2	5/3/99	JMS	
Gravimetric TPH (SGT-HEM)	4.5	mg/L	EPA 1664	5/4/99	DRA	
MDNR Scan 2	See below		EPA 824	5/3/98	DLB	
Prep. VOA	Completed		EPA 624	5/3/99	DLB	_
Benzene	<1	ug/L	EPA 624	5/3/99	CLB	
thylbenzene	<1	ug/L	EPA 824	5/3/99	DLB	
li-and/or p-xylene	<1	ugs	EPA 824	5/3/98	DLB	
D-Xylene	<1	ug/L	EPA 624	5/3/99	DLB	
Cluene	<1_	υσ/L	EPA 824	5/3/99	DLS	
Prep ECC	Completed		EPA 3510	5/3/98	MJY	
PC8 Arociar 1016	<01	JQA.	EPA 8082	5/3/99	MSZ	
PCB Aroclar 1221	<01	ual	EPA 8082	5/3/99	MSZ	
PCB Arccior 1232	<0.1	ugs	EPA 8082	5/3/99	MSZ	
PCB Aroclar 1242	<01	ugt	EPA 8082	5/3/89	MSZ	
PCB Arccior 1248	<0.1	UQIL	EPA 8082	5/3/99	MSZ	
PCB Aroclar 1254	1 < 0 1	uch	EPA 8082	5/3/98	MSZ	
PCB Arcelor 1260	<0.1	up/L	EPA 8082	5/3/99	MSZ	
PCB Aroclars, total	NA		EPA 8082	5/3/59	MSZ	
(2DCA-D4 (SUIT SDA)	101	% spike recovery	EPA 624	53/99	DLB	
FB (surr spk)	110	% spike recovery	EPA 624	5/3/99	DLB	
Taluene-D8 (surr spk)	99	% spike recovery	EPA 624	5/3/99	DLB	
DC8 (pest/PC8 sur spk)	87	% spike recovery	EPA 8082	5/3/99	MSZ	
TCIMIX (SUIT SPIK)	54	% spike recovery	EPA 8082	5/3/98	MSZ	

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FROM : ROY F WESTON, INC. 05/06/99 14:00 To:Mr. Tim Laquerra

PHONE NO. :

From: Sandy Mertz

May. 10 1999 05:55PM P30

KARiabs 515 381-9693 Page 2/3

LABORATORY REPORT

KAR Project No.: 992045

Client: Roy F. Weston, Inc. Date Reported: 05/06/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-043).

Sample ID:

"WW-EFF-043"

Sampled By: NA of Roy F. Weston

Sample Date: 8/5/99 Sample Time: 0800

Date Received: 8/5/99

Sample Type: 2009008

KAR Sample No.: 992045-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3510	5/5/99	SAS	
PCB Araciar 1016	<0.1	ug/L	EPA 8082	5/8/98	MS2	
PCB Arociar 1221	<0.1	ug2	EPA 8082	5/6/08	MSZ	
PCB Aroclar 1232	<0.1	uoA	EPA 8082	5/8/99	MSZ	
PCB Aroclar 1242	<0.1	val	EPA 8082	5/6/99	MSZ	
PC8 Araclar 1248	<01	yol	EPA 8082	5/8/99	MSZ	
PCB Aroclar 1254	<0.1	ug/L	EPA 8082	5/6/99	MSZ	
PCB Aroclar 1200	<0.1	ug/L	EPA 8082	5/8/98	MSZ	
PCB Aroclors, total	NA		EPA 8082	5/6/88	MSZ	
DCB (pest/PCB surr spli)	26	% spike recovery	EPA 8082	5/8/99	MSZ	Low surrogate recovery due to appearent metrix effect
TCMX (sur spk)	4.8	% spike recovery	EPA 8082	5/8/99	MSZ	

MAY 06, 1999
DISCHAMGED 80, 704.21
GALLONS OF THEOTOD WATER
TO THE CITY OF KALAMAZOD
FROM MODELAN TANK #2

This report may only be reproduced in full and not without the written consent of Roy F. Weston, Inc..

KARLaboratories, Inc.

(616) 381-9666

FROM: ROY F WESTON, INC.

Client: Roy F. Weston, Inc.

05/05/99 14:00 To:Mr. Tim Laquerra

PHONE NO. :

From: Sandy Mertz

May. 10 1999 05:55PM P31

KARLabs 615 381-3598 Page 3/3

LABORATORY REPORT

KAR Project No.: 992045

Date Reported:

05/06/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-043).

Sample ID: <u>Blank</u>

Sampled By:

Sample Date: Sample Time: Date Received: 8/5/99

Sample Type: aqueous

KAR Sample No.: 992045-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 3510	5/5/99	SAS	
PCB Aroclar 1018	<0.1	ug/L	EPA 8082	5/8/99	MSZ	
PCB Aroclar 1221	<0.1	ug/L	EPA 8082	5/5/99	MSZ	
PCB Aroclar 1232	<0.1	ug/L	EPA 8082	5/6/99	MSZ	
PCB Aroclor 1242	<0.1	ugit	EPA 8082	5/6/99	MSZ	
PCB Aroclar 1248	<0.1	ug/L	EPA 8082	5/6/99	MSZ	
PCS Aroclor 1254	<0.1	ugl	EPA 8082	5/6/89	MSZ	
PCB Arocior 1260	<0.1	ugs	EPA 8082	5/8/89	MSZ	
PCB Arcclors, total	NA		EPA 8082	5/6/99	MSZ	
DCB (pcst/PCB surr spk)	€5	% spike recovery	EPA 8082	5/8/99	MSZ	
TCMX (curt sold)	32	% spike recovery	EPA 8082	58.99	MSZ	

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May. 10 1999 05:56PM P32

KARLabs 516 381-9693 Page 2/4

LABORATORY REPORT

KAR Project No.: 992132

Date Reported: 05/07/99

Project Description: Analysis of two samples from Kalamazoo Superfund (WW-EFF-044,-045).

Sample ID: "WW-EFF-044"

Client: Roy F. Weston, Inc.

Sampled By: NA of Roy F. Weston

Sample Date : 5/7/1999

Sample Time: 0800

Date Received : Sample Type :

5/7/1999

3QUEQUS

KAR Sample No.: 992132-01

Test	Rasult	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completed		EPA 3510	5/7/1999	MJY	
PCB Arcelor 1016	<0.1	ug/L	EPA 8082	57,7995	M.SZ	
PCS Arcolor 1221	<01	uar	EPA 8082	5/7/1988	MSZ	
PCB Arccior 1232	<0.1	ug/L	EPA 8082	5/7/1595	MSZ	
PCB Aroclar 1242	<01	UQ2	EPA 8082	5/7,7858	M.SZ	
PCB Arcclor 1248	<01	JOL	EPA 8082	5771989	MSZ	
PCS Arociar 1254	<01	lugh	EPA 8082	5/7/1889	MSZ	
PCB Arccior 1280	<01	Ug/L	EP4 8082	57,7895	MSZ	
PCB Arcelors, total	NA		EPA 8082	5/11589	MSZ	
DCB (post/PCB surr sok)	67	% spike recovery	EP4 8082	5/7/1889	MSZ	
TCMX (sut spk)	27	% spike recovery	EPA 8082	5/1995	MSZ	

May 07, 1999

DISCHARGED 125, 379 76

GALLONS OF TREATED WATER

TO THE CITY OF KALAMITZED From Modulan TANK#1.

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FROM : ROY F WESTON, INC.

PHONE NO. :

From: Kathy Elosi

May. 10 1999 05:56PM P33

KAPLabs 516 381-9693 Page 3/4

05/07/99 15:24 To:Mr. Tim Laquerns

LABORATORY REPORT

KAR Project No.: 992132

Client: Roy F. Weston, Inc.

Date Reported:

05/07/99

Project Description: Analysis of two samples from Kalamazoo Superfund (WW-EFF-044,-045).

Sample ID:

"WW-EFF-045"

Sampled By: NA of Roy F. Weston

Sample Date : 6/7/1999 Sample Time: 0815

Date Received: 6/7/1999

Sample Type: aqueous

KAR Sample No.: 992132-02

Test	Rasult	Units of Measure	Method	Analyzed	Analysi	Contracts
Pres ECD	Completed		EPA 3510	5/7/1993	MUY	
PCB Araciar 1016	<01	ug/L	EPA 8082	5/7/1989	MSZ	
PCB Arcciar 1221	<01	ugiL	EP4 8082	577199S	MSZ	
PCB Aroclor 1232	< G.1	ug/L	EPA 8082	5/7/1989	MSZ	
PCB Arctior 1242	<01	ugit	EPA 8082	\$771999	MSZ	
PCB Aroclar 1248	<01	lug/	EPA 8082	5/7/1999	MSZ	
PCB Aroclar 1254	<0.1	val	EPA 8082	5/7/1999	MSZ	
PC8 Aroclar 1280	<0.1	ug/L	EPA 8082	5/7/1599	MSZ	
PC8 Arcelors total	NA		EPA 8082	5/7/1988	MSZ	
DCB (pest/PCB sur spk)	7 <i>e</i>	% spike recovery	EPA 8082	5PM999	MSZ	
TCMX (surt sok)	45	% spike recovery	EPA 8082	57/1500	MSZ	

MAY 08, 1999

PROM MODELAN TANKAZ.

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PUBLIC SERVICES DEPARTM Conp.

Wastewater D = 5

1415 N Harro

Kala nazoo Michigan 49007 2565

(616) 337 5177

Fax (616) 337 5779

LETTER OF COMPLIANCE

May 3, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent monthly self-monitoring results from your facility's sanitary sewer monitoring point (APE) for March 1, 1999 - March 31, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Robert C O'

Industrial Inspections Supervisor

c Sue Foune, Technical Services Manager File

BOD dw/loc's\APE Allied Paper-EPA SM 3-99

1				UEST FORI	
FACILITY NAME: SCONTACT PERSONS	Brad Sti	mple	Date: <i>5</i> Inspector	13/99 : Rochou	ر
☐ Copy:					
☐ Return draft to Ins☐ Special Instruction	•				
Type of Letti	ER NEEDED				
LOV LETTER (-1 = compliance	monitoring / -2	2 = self-monitor	ring) (check appro	opriate box)
□ BETX-1	□ BETX-2	□ Cd-1	☐ Cd-2	□ Cn-1	□ Cn-2
□ Cn-3**	□ Cr-1	□ Cr-2	□ Cu-1	□ Cu-2	☐ Hg-1
□ Hg-1A*	□ Hg-2	□ Hg-2A*	☐ Hg-3**	□ Ni-1	□ Ni-2
□ Pb-1	□ Pb-2	□ PCB-1	□ PCB-2	□ PCB-3***	□ pH-1
□ pH-2	□ pH2-Cont	□ pH-3**	☐ TPH-1	☐ TPH-2	☐ TPH-3**
□ Zn-1	□ Zn-2	□ SNC	□ Non-Comp	o	
Monitoring Point(s Level of Violation				TE:	
* Letter w/compliance ** No resamples requi *** Resample LOV w.	ired LOV letter				
LOC LETTER					
□ LOC-2 (Se □ LOC-3 (G	ompliance Monito elf-Monitoring) roundwater Reme becial Monitoring esampling)	diation Project)		
Monitoring Point(s): APE		Da	TE: March S	SMR
□ Q/Q LETTER					
Monitoring Point:_ To be applied to wh	IAT MONTH'S BILI	?	DATE:		

FROM: ROY F WESTON, INC.

Roy F. Weston, Inc. Allied Paper Inc. Operable Unit 266 E. Alcott Street Kalamazoo, IVI 49001 (616) 373-7008 (616) 373-7010 Fax

Fax

To:	BOB	ODAY_		From:	Imont (Agrina
Fax:	337	-8699		Pages:	18	
Phone				Date:	21 April	1999
Re:	MONTHE	Y Report		CC:	A	
Urge	ent	For Review	Please Con	ıment	Please Reply	Please Recycle
Com	ments:	BOB:	. /			04
		IF	YOU NEED	HADIT	TOWAL INFO	o. Planer
		Can	- 373-	7008	on 373-	7009.
				-	THANK YOU	<u>/</u>
					Tim C	1 Aquinne



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

Facility: EPA-Alfod Paper

77 North Jackson Blvd., SE-5J

Chicago IL 80604

Due: April 10, 1999

Reporting Period: March 1-March 31, 1999

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitorina Requirements:

<u>Poliutants</u>	Daily Max.	Unit	Results	Sample Type
BETX	15	mg/l	4.01	GRAB
CADMIUM	40	ug/i	45	GRAB
COPPER	2230	ug/i	420	GRAB
CYANIDE	250	ug/l	45	GRAB
LEAD	110	ו/פע	450	GRAB
MERCURY	Prohibited	₩ 9/l	BELOW DETECT	ION GRAB
NICKEL	1590	ug/l	420	GRAB
PCBs	Prohibited	ugil	Bern Delect	CION GRAB
TOTAL CHROMIUM	4670	الون	Z10	GRAB
TOTAL PETROLEUM HYDROCARBON	100	mg/l	45	GRAB
ZINC	5300	ug/l	12.50	GRAB
рН	6.2-9.8	8.U.	1.85	GRAB

N/R indicates Not Required

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Flow Information: 118,534.31 Average Batch (GAL) 948274.50 Total Monthly (GAL)

Date and Time of Sampling:

Batch #1: WW-EFF-021/1500 ms 3-16-99 Batch #3: WW-EFF-025/0845 ms /3-29-99
Batch #2: WW-EFF-022/1030 ms /3-22-99 Batch #4: WW-EFF-027/1200 ms / 4-6-99

Note: if more than one batch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis.

t certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel property gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Brad Stimple

Date

Title:

On-Scene Coordinator/Environmental Scientist

APR 2 I 1999

KAR Project No.: 991067

Client: Roy F. Weston, Inc.

Date Reported:

03/15/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (#WW-EFF-

020).

Sample ID:

"WW-EFF-020"

Sampled By: NA of Roy F. Weston

Date Received: 3/12/99

Sample Date: 3/12/99

aqueous

Sample Time: 0745

Sample Type: KAR Sample No.; 991067-01

Cample Time : 27 70	Campid Time Co. 70							
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments		
Prep ECD	Completed		EPA 35'0	3/12/69	N.Y			
PCB Araclar 1016	<0.05	Jg.1	EPA 8082	3/15/99	MSZ			
PCB Arcclor 1221	<0.05	Jg/L	EPA 8082	34558	MSZ			
PCB Aroclor 1232	<0.05	ua/L	EPA 8082	3/15/99	MSZ			
PCS Aroclar 1242	10.08	ug1	EPA 8082	3/13/59	MSZ			
PCB Arocior 1248	<0.05	ug/L	EPA 8082	3/15/55	MSZ			
PCB Aroclar 1254	< 0.05	ug/L	EPA 8082	3/15/59	M:SZ			
PCB Araciar 1280	<0.05	ug/L	EPA 8082	3/15/99	M.S.Z			
PCB Arcolors, total	0.05	Ug/L	EPA 8082	3/15/59	MSZ	•		

BRUCE MERCHANT approved discharge of batch.
Reason: "0.05 ug/k below city o.1 ug/k Limit."

Not considering excedence a violation

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KAR Project No.: 991128

Date Reported:

03/18/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-021).

Sample ID . <u>"WW-EFF-021"</u>

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date: 3/16/99 Sample Time: 1500 Date Received: 3/17/99
Sample Type: aqueous

KAR Sample No.: 991128-01

Test	Result	Units of Measure	Nethod	Analyzed	Analyst	Comments
	+	OURS OF WASTER		+		Contributes
פר כפר?	Completed		EPA 7471A	3/17/99	PML	
Pres metals	Completed	 	EPA 301x, 200 x	3/17/99		
Cadmium total	<5	JQ/L	EPA 6010B	3/18/99	PAL	
Chromium, total	<10	JOL	EPA 6010B	3/18/99	PML	
Copper total	20	ugh	EPA 6010B	3/18/59	PML	
Lesa total by ICP	<50	ug/L	EPA 6010B	3/18/99	PIML	
Mercury, total low level	<02	Jal	EPA 747"A	3/18/59	PML	
Nickel total	<20	ual	EPA 6010B	3/18/59	PML	
Zinc total	20	ug/L	EPA 6010B	3/18/98	PML	
Cyanida, total	<5	ugA	EPA 335 2	3/17/99	√AS	
Graumatic TPH (SGT-HEM)	<5	mg/L	EPA 1664	3/17/99	₹⊅Ç	
PH	7,5	5 U	EPA 150 1	3/17/99	POH	Sample received past holding time: result in approximate
MDNR Scar 2	See below		EPA 624	3/17/89	3.6	
Pres VOA	Completed		EPA 624	3/17/56	DLB	
<u>Eenzene</u>	<1	שמר	EPA 524	3/17/99	JL8	
Ethvibenzene	<1	ugh	EPA 624	3/17/00	DLB	
M-and/or p-xylene	<7	Jal	EPA 524	3/17/99	DLB	
O-X/lene	<1	ugh	EPA 624	3/17/89	DLB	
Talvene	<:	ug/L	EPA 624	3/17/99	DLB	
Prep ECD	Completed		EPA 3510	3/17/99	YUY	
PCB Aroclar 1016	<01	Jal	EPA 8082	3/18/99	MSZ	
PCB Aroclar 1221 -	<01	val	EPA 8082	3/16/99	MSZ	
PCB Arocior 1232	<01	ม ญ ไ	EPA 8082	3/18/59	MSZ	
PCB Arocler 1242	<01	ugl	EPA 8082	3/18/99	MSZ	
PCB Aroclar 1248	<0.1	ugi	EPA 8082	3/18/99	MSZ	
PCB Arocior 1254	<01	ug/1	EPA 8082	3/18/95	MSZ	
PCS Arcclor 1260	<01	ugit	EPA 8082	3/18/99	MSZ	
PCB Aroclars, total	NA	ugh	EPA 8082	3/18/59	M:SZ	
12DCA-D4 (SUIT SDK)	107	% spike recovery	EPA 624	3/17/99	عبرج	
BFB (surr spk)	112	% spike recovery	EPA 624	3/17/99	DLB	
Towene-D8 (surr spk)	82	% spike recovery	EPA 524	3/17/98	JLB	
DCB (pest/PCB surr spk)	50	% spike recovery	EPA 8082	3/18/59	MSZ	
TCMIX (surt spk)	27	% spike recovery	EPA 8082	3/18/99	MSZ	

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KARLaboratories, Inc.

10, 301 - 30

Page 2

MARCH 19, 1999
123, 938. 61 GALLONS
DISCHARGED TO CITY
OF KALAMAZOO FROM
MODULAR TANK #1.

KAR Project No.: 991128

Date Reported: 03/18/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-021).

Sample ID : <u>Lab Method Blank</u>

Client: Roy F. Weston, Inc.

Sampled By:Date Received:3/17/99Sample Date:Sample Type:LMBSample Time:KAR Sample No.:991128-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Correnents
Pres, 4g	Completed		EPA 7471A	3/17/59	PNL	
Prep metals	Completed		EPA 30xx 200 x	3/17/99	⊃8L	
Cadmium total	<5	ugil	EPA 60'0B	3/18/59	PML	
Chromium, total	<10	ug/L	EPA 60'0B	3/18/93	PML	
Copper total	<20	ug/L	EPA 60'08	3/18/99	PML	
Lead, total, by ICP	<50	ug/L	EPA 60'0B	3/18/99	PML	
Mercury total, low level	<0.2	Jal	EPA 747!A	3/18/59	PML	
Nickel, tolal	<20	ug/L	EPA 6010B	3/18/59	PML	
Zinc, total	<10	ug/L	EPA 60'0B	3118/88	744	
Cyenide total	<5	ug/L	EPA 335.2	3/17/99	VAŞ	
Graymetic TPH (SGT-EM)	<5	mg/L	EPA 1864	3/17/99	25	
MDNR Scar. 2	See below		EPA 624	3/17/99	SLB	
Pres VOA	Completed		EPA 624	3/17/99	عدد	
Benzene	<1	υgΛ	EPA 624	3/17/99	245	
Etryiberzene	<1	ug/L	EPA 624	3/17/59	DLB	
M-end/or p-xylene	<1	ug/L	EPA 624	3/17/99	DLB	
O-Xylena	<1	JQ/L	EPA 624	3/17/99	DLB	
Toluene	<5	JOK	EPA 624	5/17/99	CLB	
Pres, SCD	Completed		EPA 3510	3/17/99	VLV	
PCB Arociar 1016	<01	שמר	EPA 8082	3/18/99	WSZ	
PCB Aroclar 1221	<0.1	ug/L	EPA 8082	3/18/99	w.s.z	
PCB Arccior 1232	<01	υσι	EPA 8082	3/18/95	MSZ	
PCB Araclar 1242	<0.1	ugs	EPA 8082	3/18/98	MSZ	
PCB Areclor 1248	<01	υ ρ Λ	EP4 8082	3/18/99	MSZ	
PCB Aroclar 1254	<01	ug/L	EPA 8082	3/18/98	MSZ	
PCB Aroclar 1260	<01	uon	EPA 8082	3/18/99	MSZ	
PCB Araciars total	NA		EPA 8082	3/18/99	MSZ	
12DCA-D4 (SUT SPK)	706	% spike recovery	EPA 524	3/17/89	DLB	
EFB (surr spk)	115	% spike recovery	EPA 624	3/17/99	DLB	
Taluene-D8 (surr spk)	94	% spike recovery	EPA 574	3/17/99	⊃LB	
DCB (past/PCB surr spr)	73	% spike recovery	EPA 8082	3/18/99	M.SZ	
TCMX (SUIT SOK)	35	% spike recovery	EPA 8082	3/18/99	MSZ	

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KAR Project No.: 991202

Date Reported:

03/23/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-022).

Sample ID: "WW-EFF-022"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston, inc.

Sample Date: 3/22/1999

Date Received: 3/22/1999

Sample Type: KAR Sample No.: 991202-01

aquebus

Sample Time: 1030

Test	Resist	Units of Measure	Nethod	Analyzed	Analyst	Contraction
Prep Hg	Campleted		EPA 7470	3/22/1696	DBL	
Prep metals	Completed		EPA 30xx, 200 x	3/22/1999	PML	
Cedmium total	<5	ug/L	EPA 200.7	3/23/1999	PML	
Chromium, total	< 30	uo1	EPA 200 7	3/23/1959	PML	
Copper total	<20	ugl	EPA 200,7	3/23/1888	PML	
Lead total, by ICP	<50	ug/L	EPA 200 7	3/23/1999	PML	-
Mercury, total low level	<0.2	ug/L	EPA 7470A	3/23/1999	$\overline{}$	
Nickel, total	<20	υg/L	EPA 200.7	3/23/1999	PML	
Zinc, total	10	ug/L	EPA 200.7	3/23/1899	PML	
Cyanide, totai	<5~	ug/L	EPA 335 2	3/22/1999	VAS	
Gravimetria TPH (SGT-HEM)	<5	mg/L	EPA 1664	3/22/1999	375	
PH	8.0	SU	EPA 150 1	3/22/1999	POH	
MDNR Scar. 2	See below		EPA 624	3/22/1999	DLB	
Prep VOA	Completed		EPA 624	3/22/1999	DLB	
Benzene	<1	ug/L	EPA 624	3/22/1999	248	
Ethylbenzene	<1	ugr	EPA 624	3/22/1959	DLB	
M-and/or p-xylene	<1	ug/L	EPA 624	3/22/1959	DLB	
O-Xyiene	<1	UOL	EPA 824	3/22/1999	DLB	
Toluene	<1	Ja∕L	EPA 624	3/22/1959	วเย	
Prep SCD	Completed		EPA 35'0	3/22/1999	YUY	
PCB Aroclor 1015	<01	ug/L	EPA 8082	3/23/1959	MS2	
PCB Arocior 1221	<0.1	ugl	EPA 8082	3/23/1955	M:SZ	
PCB Aroclor 1232	<0.1	ugit	EPA 8082	3/23/1999	MSZ	
PCB Arocior 1242	<01	ug/L	EPA 8082	3/23/1999	M.SZ	
PCB Aroclor 1248	<0.1	ugiL	EPA 8082	3/23/1559	MSZ	
PCB Aroclar 1254	<0.1	ugit	EPA 8082	3/23/1999	MSZ	
PCB Aroclor 1260	<0.1	ug/L	EPA 8082	3/23/1999	M.SZ	
PCB Arociars, total	NA		EPA 8082	3/23/1999	M:SZ	
12DCA-D4 (surt spk)	107	% spike recovery	EPA 824	3/22/1999	DLB	
BFB (sum spk)	110	% spike recovery	EPA 524	3/22/1999	2.8	
Toluene-D8 (surt sold)	88	% spike recovery	EPA 624	3/22/1999	DLB	
DCB (pest/PCB sur spk)	52	% spike recovery	EPA 8082	3/23/1999	MSZ	
TCMX (surt spk)	28	% spike recovery	EPA 8082	3/23/1999	M.SZ	

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KAR Laboratories, Inc. (616) 381-9666

Page 2

MARCH 23, 1999

DISCHARGED 100,880.26

GALLONS TO CITY OF KALAMAZOR
FROM MODILIAN TANK #12.

KAR Project No.: 991202

Client: Roy F. Weston, Inc. Date Reported: 03/23/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-022).

Sample ID: Lab Method Blank

Sampled By: Sample Date: Date Received: 3/22/1999
Sample Type: LIMB

Sample Time :

Sample Type: LIAB
KAR Sample No.: 991202-02

Sample fime :	NAR Sample No 997202-02					
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
P730, 49	Completes		EPA 7470	3/22/1889	287	
Prep, metals	i Completed		EPA 30xx 200 x	3/22/1999	PML	
Cadmium total	<5	ug/L	EPA 200 7	3/23/1999	PML	
Chromium, iotal	<10	l ual	EPA 200,7	3/23/1999	PML	
Copper total	<20	val.	EPA 200 7	3/23/1858	PML	
Lead total, by ICP	<50	UDAL	EPA 2007	323/1998	PML	
Mercury, total low leve!	<0.2	ug/L	EPA 717CA	3/23/1995	⊃BL	
Nickel total	<20	υ 0 /1	EPA 200 7	3/23/1999	PML	
Zinc, total	<10	ug/L	EPA 200 7	3/23/1659	PHIL	
Cyanide, total	¹ <5	ug1	EPA 335 2	3/22/1599	VAS	
Gravimetric TPH (SGT-HEM)	<5	ב/פיה	EPA . 664	2221968	RJC	
MDNR Scar. 2	See below		EPA 624	3/22/1985	DLS	
Prep VOA	Completed		EPA 524	3/22/1959	SiB	
Serzene	<1	ug/L	EPA 574	3/22/1989	عدد	
Ethyibenzene	<5	υαΛ	EPA 624	3/22/1559	DLB	
M-end/or p-xylene	<1	UQAL	EPA 624	3/22/1999	DLB	
0-Xylene	<5	ual	EPA 624	3/22/1999	DLB	
7cluene ⁴	<1	rav.	EPA 524	3/22/1959	DLB	
Prep SCD	Completed		EPA 35'0	3/22/1989	YUM	
PCB Aroclar 1016	<01	ug/L	EPA 8082	3/23/1999	M.SZ	
POB Aroclar 1221	<01	ugil	EPA 8082	3/23/7999	MSZ	
PCB Aroclar 1232	<01	ug/L	EPA 8082	3/23/1599	WSZ	
PCB Araclar 1242	<0.1	ug/L	EPA 8082	3/23/1999	NSZ	
PCB Arocior 1248	<0.1	עפו	EPA 8062	3/23/1999	₩.SZ	
PCB Arcelor 1254	<0.1	ugl	EPA 8082	3/23/1999	MSZ	
PCB Aroclar 1260	<01	עפע	EPA 8082	3/23/1999	MSZ	
PCB Aroclors, total	INA		EPA 8082	3/23/1999	M.SZ	
12DCA-D4 (sun spk)	108	% spike recovery	EPA 624	3/22/1999	DLB	
FB (suit spk)	113	% spike recovery	EPA 624	3/22/1989	DLB	
Talvere-D8 (sur spk)	\$2	% spike recovery	EPA 624	3/22/1959	DLB	
CCB (pest/PCB sur spk)	€7	% spike recovery	EPA 8082	3/23/1859	MSZ	
TCMX isur spk)	42	% spike recovery	EPA 8082	3/23/1998	MSZ	

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KAR Project No.: 991240

Date Reported: Client: Roy F. Weston, Inc.

03/25/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-023).

Sample ID: "WW-EFF-023"

Sampled By: OGN of Roy F. Weston

Sample Date: 3/24/99

Date Received: 3/24/99

Sample Type : agueous

Sample Time: 0918			KAR Sample No.: 991240-01			
Test	Result	Units of Measure	Method	Analyzed	Analysi	Comments
Prep. ECD	Completed		EPA 35'0	3/24/99	SAS	
PCB Aroclor 1016	<01	ugh	EPA 8082	3/25/99	MSZ	Lon' suragate recovery due to apparent metrix effect
PCB Araclar 1221	<01	ngı	EPA 8082	3/23/99	MSZ	Lon surrogale recovery due to appearent matrix effect
PCB Aroclar 1232	<0 1	ugl	EPA 8082	3/25/88	MSZ	Low surrogate recovery due to apparent matrix effect
PCB Aracior 1242	<01	JOL	EPA 8082	3/25/95	wsz	Lon surrogate recovery due to apparent matrix surrect
PCB Arocior 1248	<0.1	ug/L	EP4 8082	3/25/99	M.SZ	Low surrogate recovery due to appearent matrix affect.
PCB Aroclar 1254	<j 1<="" td=""><td>ug1</td><td>EPA 8082</td><td>3/25/95</td><td>M.S.Z</td><td>Low surrogate recovery due to epperent metrix effect</td></j>	ug1	EPA 8082	3/25/95	M.S.Z	Low surrogate recovery due to epperent metrix effect
PCB Aroclar 1260	<01	ug/L	EPA 8062	3/25/99	MSZ	Low suragete recovery due to apparent matrix offect
PCB Aroclors, total	NA		EPA 8082	3/25/99	MSZ	
DCB (COSVPCB SLIT SPX)	25	% spike recovery	EPA 8087	3/25/99	MSZ	Los sur ogele recovery due to apperent matrix effect
TCMX (sur spk)	74	% spike recovery	EF4 6082	3/25/99	MSZ	

Имен 25, 1999

DISCHARGED 128, 262.05 GALLONS
THEATED WATER TO THE CITY OF KALAMAZOO FROM
MODULAN TANK # 1.

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KAR Project No.: 991240

Date Reported:

03/25/95

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-023).

Sample ID: Lab /

Client: Roy F. Weston, Inc.

Lab Method Blank

Sampled By:

Sample Date :

Date:

Sample Time :

Date Received: 3/24/99 Sample Type: LMB

Sample Type : LMB KAR Sample No. : 991240-02

Test	Resust	Units of Measure	Method	Analyzed	Analyst	Comments
Prep ECD	Completes		EPA 3510	3/24/99	5A5	
PCB Aroclar 1016	<01	ug/L	EPA 8082	3/25/99	H.SZ	
PCB Arcciar 1221	<0.1	JOL	EPA 8082	3/25/98	M.S.Z	
PCB Aroclar 1232	<0.1	ual	EPA 8082	3/25/99	W.S.Z	
PCB Arccior 1242	<0.1	ug1_	EPA 8082	3/2559	MSZ	
PCB Aroclar 1248	<0.1	ug/L	EPA 8082	3/25/99	MSZ	
PCB Aroclar 1254	<01	JUL	EPA 8082	3/25/99	MSZ	
PCB Arccior 1260	<0.1	ug/L	EPA 8082	3/25/59	MSZ	
PCB Arociars total	NA	!	EPA 8082	3/25/00	MS2	
0CB (pest/PCB sur spic	72	% spike recovery	EPA 8082	3/25/89	MSZ	
TCIMX (SUT SOX)	51	% spike recovery	EPA 8082	3/25/98	MSZ	

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FROM : ROY F WESTON, INC.

PHONE NO. : rram's andy marty

Apr. 21 1999 12:13PM P10

LABORATORY REPORT

KAR Project No.: 991285

03/26/95 Date Reported:

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-024).

Sample ID: "WW-EFF-024"

Client: Roy F. Weston, Inc.

Sampled By: TRL of Roy F. Weston

Sample Date: 3/26/99 Sample Time: 1020

Date Received: 3/26/99 Sample Type: equeous

KAR Sample No.: 991285-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Pres SGD	Completed		EPA 3510	3/26/59	SAS	
PCB Arcclar 1018	<0.1	ug/L	EPA 8082	3/26/99	MSZ	
PCB Arcolor 1221	<01	ugs	EPA 8082	3/26/29	MSZ	
PCB Aroclar 1232	<01	ug/L	EPA 8082	3/28/99	MSZ	`
PCB Arociar 1242	<01	ua1	EPA 8082	3/26/98	MSZ	
PCB Araclar 1248	<01	ug/L	EPA 8082	3/26/99	MS2	
PCB Aracla: 1254	<01	ugh	EPA 8082	3/28/99	MSZ	
POB Aroclar 1260	<01	ug/L	EPA 8082	3/26/99	M52	•
PCB Aroclars, total	NA		EPA 8082	3/26/99	NSZ	
DCB (past/PCB sur spic)	60	% spike recovery	EPA 8082	3/26/59	MSZ	
TGMX (surt spk)	36	% spike recovery	EPA 8082	32689	MSZ	

MARCH 26, 1999 DISCHARGED 122,497.47 GIACLONS OF THEATED WATER

TO THE CITY OF KALAMAROO. FROM

Moourn Tank # 2.

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KAR Project No.: 991285

Client: Roy F. Weston, Inc.

Date Reported:

03/26/95

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-024).

Sample ID: Lab Method Blank

Sampled By:

Date Received: 3/26/99

Sample Date: Sample Time : Sample Type : LMB

KAR Sample No.: 991285-02

ounge time.					TO THE PROPERTY OF THE PROPERT			
Test	Result	Units of Measure	Method	Analyzed	Analysi	Comments		
Prep ECD	Completed		EPA 3510	3/26/99	545			
PCB Arociar 1016	<0.1	ug/L	EPA 8082	3/26/55	MSZ			
PCB Aroclar 1221	<0.1	ugl	EPA 8082	3/25/55	MSZ			
PCB Aroclar 1232	<0.1	ug/L	EPA 8082	3/26/99	MSZ			
PCB Aroclar 1242	<01	ug/L	EPA 8082	3/26/99	MSZ			
PCS Arociar 1248	<0.1	ug/L	EPA 8082	3/26/99	MSZ			
PCB Aroclor 1254	€0.1	Jou	EPA 8082	3/26/59	M.SZ			
PCB Aroclar 1260	<01	ug/1_	EPA 8082	3/26/99	M.SZ			
PCB Aroclars total	NA		EPA 8082	3/26/59	M:SZ	•		
DCB (pest/PCB surr spk)	70	% sp.ke recovery	EPA 8082	3/26/99	MSZ			
TCMX (sur spr)	40	% spike recovery	EPA 8082	3/26/56	M.SZ			

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KAR Project No.: 991310

Date Reported: 03/30/99

Project Description: Analysis of one sample from Kaiamazoo River Superfund (WW-EFF-025).

Sample ID: "WW-EFF-025"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date: 3/29/99 Sample Time: 0845 Date Received: 3/29/59
Sample Type: equeous
KAR Sample No. 991310-01

Test Racist Units of Measure Method Analyzed Analyst Comments EPA 7470A DBL Pres 4g Completed 3/29/98 Prep metais EPA 30 tx, 200 x 3/29/99 | Completed Ĵ₿L EPA 60'0 3/30/95 Cadmium total ugit, CBL EPA 60'0 <10 Chromium total :21 3/30/991 <u> 23∟</u> <10 EPA 60'0 3/30/85 Copper total ug/L Lesa total, by ICP EF4 5010 <50 ∨ 3/30/98 DSL JQ/L -02 V EPA 7470A BL Marcury, total low revel Jg/L 3/30/98 <20 V EPA 6010 D5L Nicker total 3/30/991 uqiz Zinc_totel 110 V uo/L EPA 6010 3/30/98 CRI <5 1 Cyanide sotal ug/L EPA 335 2 3/29/89 JAS Gravimetric TPP (EGT-FEM) EPA 1664 3/29/55! 20 moA₽H 78 EP# 150 1 3/29/99 JL9 MDNR Scar 2 See Selow EPA 524 3/29/85 Prep VOA Completed EPA 624 3/29/99 348 <1 V EPA 624 3/29/95 Berzene Jg1 عند <1 V EPS 824 ھير Ethylbenzens Jg/L 3/29/88 47 1/ EPA 824 3/29/99 M-anolor p-xylene Ug.1 O-Xylene 47 ./ EPA 524 3/29/59 CLE אבני Taluene <1 .1 ug/L EPA 624 3/29/99 218 Prep ECD I Completed EPA 3510 3/29/99 545 PCB Aradior 1016 <0.1 W EPA 8082 3/29/99 4.SZ JgL PGB Aroclar 1221 <C 1 EPA 8082 3/29/99 ¥SZ υg.Σ V EPA 8062 PCB Aroclar 1232 <0 1 JoA 3/29/59 MSZ. 3/29/99 PCB Aroclor 1242 4C 1 USA EPA 8082 N'SZ MSZ EPA 8082 3/23/99 PCB Arcclor 1248 <01 νολ <01 אבני EPA 8082 3/29/59 PCB Arcciar 1254 NSZ PCB Aroslor 1260 <01 ual EPA 8082 3/29/99 MSZ NA EPA 5083 3/22/99 PCB Arociors, total WSZ 12004-04 (suit spl) 1775 % sake recovery EPA 624 5/29/95 JLB. 3/29/99 113 EFB (suit spk) % spike recovery EPA 824 Talcene-D8 (surr spk) 90 EPA 624 3/29/98 DIB % spike recovery 33 3/29/99 EPA 8082 MSZ DCB (past/PCB sur spk) % solke recovery 3/29/99 18 1 % solke receivery EFA 8082 TOMA . SUIT SPIN

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KARLaboratories, Inc.

Page 2

MARCH 30, 1999

DISCHARGED 118, 174.03

GALLONG OF TRUMTUS WATER

TO THE CITY OF KALANAZOO

FROM MODILIAN TANK # 1.

KAR Project No.: 991310

03/30/99 Date Reported:

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-025).

Sample ID: Lab Method Blank

Client: Roy F. Weston, Inc.

Sampled By:

Sample Date:

Date Received: 3/29/99 Sample Type : LMB

Sample Time :		KAR Sample No . 991310-02				
Test	Result	Units of Measure	Netrod	Analyzed	Analyst	Comments
Preping	Completed		EPA 7470A	3/29/55	SBL	
निक्य गालकांड	Completed		EPA 30xx, 200 x	3/29/98	⊃BL	
Cadmium total	<5	Jg/L	EPA 60.0	3/30.56	<i>⊅BL</i>	
C'eomium, fotal	c10 V	ya/L	EPA 60'0	330/95	⊃BL	
Copper total	<10	ug/1	EPA 5010	3/30/99	DBL	
Lead total, by ICP	<50	υg/L	EPA 60'0	3/30/89	DBL	
Mercury, total low level	402/	ug/L	EPA 747GA	3/30/59	DBL	
Nickel, total	<20 /	ug/L	EPA 6010	3/30/59	DBL	
Zinc total	i<10	ugh	EPA 6010	330/66	DBL	
Cyande, istal	1<5	JQ1	EPA 335 2	3/29/55	/AS	
Gravimetric TPH (SGT-HEM)	45	mo/L	EPA 1664	3/22/95	FJC	
MDNR Scan 2	See belovi	1	EPA 624	3/29/99	DLB	
Prep VOA	Completed		EPA 524	3/29/99	CLB	
<i>Eenzene</i>	(4)	USA	EPA 624	3/29/95	JLB	
Ethylbenzene	4: /	UZL	EPA 624	3/29,58	DLB	
M-eng/or p-xylene	1<1	va1	EPA 624	3/29/95	DLB	
O-Xylene	1-1	Jal	EPA 624	3/29/99	DLB	
Taluene	<5	FOL	EPA 624	3/29/59	DLS	
Preo ECD	Completed		EPA 3510	3/29/95	SAS	
PCB Aroclar 1016	<01	ng/L	EPA 8082	3/29/99	NSZ	
PCB Aroclar 1221	<01 V	Ja.1	EPA 8082	3/29/98	MSZ	
PCB Aroclor 1232	<01 V	ugs	EPA 8082	3/29/99	MSZ	
PÇB Aroclor 1242	-21 V	ugA	EPA 8082	3/29/99	MSZ	
PCB Arcclor 1248	<01 V	ug/L	EPA 8082	3/29/99	MSZ	
PCB Aroclor 1254	<01 V	Jg/L	EPA 8082	3/29/99	NSZ	
PCB Arociar 1260	40 9	ug!	EPA 8082	3/29/99	MSZ	
PCB Arociars, total	NA V		EPA 8082	3/29/55	MS2	
12DCA-D4 (SUIT SPK)	106	% spike recovery	EP4 624	3/29/99	DLB	
EFB (surt spk)	177	% spike recovery	EPA 624	3/29/\$5	CLB	
Taluene-D8 (surr spk)	89	% spike recovery	EPA 524	3/29/59	DLB	
DCB (pest/PCB surr spk,	75	% spike recovery	EPA 8082	3/29/35	MSZ	
TCHAX (SUT SPK)	76	% spike recovery	EPA 8062	3/29/95	N'SZ	

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KAR Project No.: 991394

Client: Roy F. Weston, Inc.

Date Reported:

04/02/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-026).

Sample ID:

"WW-EFF-026"

Sampled By: OGN of Roy F. Weston

Sample Date: 3/31/1999

Sample Time: 1500

Date Received: 4/1/1999

Sample Type: aqueous

KAR Sample No.: 991394-01

Test	Resust	Units of Measure	Method	Analyzed	Analyst	Contractics
Prap ECD	Completed		EPA 35'0	AMMSGS	545	
PCB Arcolar 1015	<61	ug/L	EP4 8082	4M/1898	MSZ	
PCB Araclar 1221	<01	ug/L	EPA 8082	447 858	W.SZ	
PCB Arcular 1232	<01	UOL	EPA 8082	4/1/1999	M:SZ	
PCB Arocia- 1242	<01	Jg/L	EPA 8082	4/1/1599	MSZ	Ì
PCB Arociar 1243	< 0.1	ug/L	EPA 8082	4/1/1999	MS2	
PCB Arcelor 1254	<01	ug/L	EPA 8082	4/1/1999	₩SZ	
PCB Aroclor 1260	< <u>C</u> 1	υ g /L	EPA 8082	4/1/1999	MSZ	
PCB Aroclors, total	NA		EPA 8082	£1/1995	MSZ]
DCB (DBSUPCB SUT SPX)	28	% spike recovery	EPA BOEZ	4/1/1999	₩SZ	Lovi surrogete recovery due to epperent metriz effect
TC:AX (SUIT SDX)	195	% spike recovery	EPA 8082	4/1/1992	M:SZ	

April 02, 1999

DISCHARGED 106, 644.85 GALLONS OF TRAFTED WATER TO THE CITY OF KARAMATOO From Mornian Tank #2.

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KAR Project No.: 991394

Date Reported: 04/02/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-025).

Sample ID: Lab Method Blank

Client: Roy F. Weston, Inc.

Sampled By:

Date Received: 4/1/1999

Sample Date :

Sample Type : LIMB

KAR Sample No.: 991394-02

Sample Time :				KAR Sample No.: 991394-02			
Test	Result	Units of Measure	Method	Analyzed	Analyst	Сопилен:s	
Preo ⊆00	Completeo		EPA 3510	4/1/1998	SAS		
PGB Aroclar 1018	<01	υ μ1 .	EPA 8082	4// 1995	MSZ		
PCB Arocior 1221	<01	ugh	EPA 8082	41/1588	M52		
PGB Arociar 1232	i <0 1	ual	EP4 8082	4/1999	M.SZ		
PCB Aroclor 1242	KG 7	ugl	EPA 8082	411960	MSZ		
PCB Arociar 1248	<01	ug/_	EPA 8082	4/1/1998	MSZ		
PCB Arogor 1254	<01	ugs	EPA 8082	4MM939	MS2		
PCB Arcciar 1260	<0.1	ug/L	EPA 8082	4/1 M 399	MSZ		
PCB Aroclars total	NA		EPA 8082	47,7599	MSZ		
DCB (pest/PCB surr spk)	84	% spike recovery	EPA 8082	4/1/1999	NSZ		
TCMX isur spki	33	% spike recovery	EPA 8082	AMMESS	MSZ		

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KAR Project No.: 991474

Date Reported: 04/07/99

Client: Roy F. Weston, Inc.

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-027).

Sample ID: "WW-EFF-027"

Sampled By: OGN of Roy F. Weston

Sample Date : 46/1999

Sample Time: 1200

Date Received: 4/5/1999 Sample Type: agueous

KAR Sample No.: 891474-01

Tast	Result	Links of Beautier	Methoc	Anglancia	45 ab ==	5
	11111	Units of Measure		Analyzed	Analyst	Comments
St dete	Completed		EPA 245 2	4/6/1995	PNL	
Prep metals	Completed		EPA 30XX, 200 X	4/6/1999	MTM	
Cedmium total	< 3	lug1	EPA 200 7	4/7/1899	PML	<u> </u>
Chromium total	<10	ug/L	EPA 200 7	47/1999	PNL	
Copper total	<20	ug/L	EPA 200 7	4/7/1989	PHIL	
Lesa total by 'C?	<50	up/L	EPA 200 7	W/1999	PML	
Mercury, total low level	<02	иg/L	EPA 245.2	4/7/1599	MTM	
vickel total	1<20	ual	EPA 200 7	47,7595	PML	<u> </u>
2inc total	<10	JQ/L	EPA 200 7	4/7/:999	PML	
Cyaride, Total	<5	Ja1	EPA 335 2	4/7,7999	VAS	
Graumetic TPH (SGT-HEM)	<.5	.πg/ <u>-</u>	EPA 1664	4/7/1999	RJC	
PH	೯ ೦	S.L'	EPA 150 1	4/7/7 999	POH	Sample analyzed past holding time result is approximate
MONR Scar Z	See below		EPA 8260	4/8/7599	DLB	
Prep VOA	Completed		EPA 5030	4/6/1999	DLB	
Senzene	<1	ual	EPA 8260	4/6/1599	DLB	
Ethylbanzene	<1	vg1_	EPA 8260	4/6/1959	DLB	
M-and/or p-xylene	1<1	uct	EPA 8260	4/6/1999	DLB	
O-Xylene	<1	UQL	EPA 8250	467395	عدد	
Toluene	<1	ug/L	EPA 8260	₽671959	⊃L8	
Prop ECD	Completed		EPA 35'0	4/5/1955	SAS	
PCB Aroclar 1016	<01	UQ1_	EPA 8082	4/7/1553	MSZ	
PCE Aroclar 1221	<01	JQL	EPA 8082	4/7/1998	MSZ	
PCB Arociar 1232	<01	ugil	EPA 8082	4/7/1999	MSZ	
PCB Aroclar 1242	<0.5	ug/L	EPA 8082	4/7/1958	M3Z	
PCB Aroclar 1248	<0.1	ug1.	EPA 8082	4/7/1999	W.SZ	
PCB Araclar 1254	<0.1	ug/L	EPA 8082	4/7/1999	MSZ	
PCB Aroclor 1260	<0.7	ug/L	EPA 8082	17/1959	MSZ	
PCB Arociors total	NA		EPA 8082	4/7/1999	MSZ	
12DCA-D4 (surt spk)	116	% spike recovery	EPA 8260	4/6/7939	DLE	
EFB (surr spk)	112	% so ke recovery	EPA 8260	4/5/1539	⊃L8	
Toluene-D8 (surr sold)	91	% spike recovery	EPA 8260	4/8/1999	בנפ	
CCB (pest/PCB sur spl.)	16	% spike recovery	EPA 8082	4/7/1989	MSZ	Law surrogate recovery due to appearant matters effect
TOARX (sur sok)	54	% spike recovery	EPA 808?	4/7/1988	MSZ	

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(618) 381-9666

Page 2

He written consent of Roy F Weston, Inc.

| April 13, 1999
| 1) ISCHAMA OD 126, 820.9 | CALLONS
| From Modulan Tank # | & DISCHAMA OF TROOPED

(648) 194 9866 WATER TO THE CAY OF KARAMARON From Moducan TANX#2.

KAR Project No.: 991474

04/07/99 Date Reported:

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-027).

Sample ID: Blank

Client: Roy F. Weston, inc.

Sampled By:

Sample Date :

Date Received: 4/7/1999

Sample Type:

aqueous

KAR Sample No.: 991474-02 Sample Time: Result Ur.hs of Measure Nethod Analyzed Analyst Comments EPA 245.2 4/5/1969 INTM Pres. Hc Completed MTM EPA 30xx, 200 x 4/5/4599 Prep, metals Completed <5 ug/L EPA 200.7 477588 PML Cadmium total EPA 200 7 <10 47M5991 PMI Chromium total $\mu\nu/l$ -20 EPA 200 7 4/7/1999 Copper total ug/L Less total by ICP <50 EPA 200 7 47M599 ua/L <02 EP4 245 2 WIM (6831/74 Mercury, total low level Jg1 4771859 EPA 200 7 PMI Nickel total <20 <u> 190</u> EPA 200 7 ATTISSE PAIL -10 Zinc total ugil <5 UDA EP# 335 2 477 938 VAS Cyanide, :clai Gravimatic TPH (SGT+.EIA) 1<5 EPA 1664 4771693 mg/L RJC 487595 JLB MDNR Scan 2 See below EPA 8260 4/6/1999 DLB Prep, VOA Completed EPA 5030 EPA 8260 4/6/1999 DLB Senzene <1 < 1 EPA 8260 4871988 υσ/L Eth/ibanzena M-and/or p-xylene <1 401 EP4 8260 4/6/7 585 O-Xylene <1 Up/L EPA 8260 467.553 4/8/1995 DLB 1 < 1 EPA 8260 Taluene JOL 46/1588 Completeo Prep ECD EPA 3510 SAS PCB Arociar 1016 47/1999 MSZ <0.7 EPA 8082 uo/I PCB Arociar 1221 <C 1 ugh **EPA 8082** 4/7/1999 MSZ PCB Arocky 1232 <01 ug/L EPA 8082 4771598 PCB Arocior 1242 40 T ug/L EPA 8082 4/7/1999 N.SZ <01 EPA 8082 477599 MSZ PCS Arochr 1248 ug/L PCB Aroclar 1254 <₽.1 4g/L EPA 8082 4/7/1595 MSZ <01 EPA 8082 477.999 PCB Aroclor 1280 ya/L MSZ PCB Aroclars total NA EPA 8082 4/7/:995 MSZ EPA 8260 C/B 12DCA-D4 (SLT SPK) 109 4/8/1999 % spike recovery 107 EPA 8260 4/6/1995 BFB (surr spk) % so ke recovery DLB 88 Tcluene-D8 (sur spk) % spike recovery EPA 8260 4/6/1599 DLB DCB (post/PCB surr spk) 78 EPA 8082 4/7/1559 % soike recovery MSZ TCMX (sum spix) 117 % spike recovery EPA 8082 4771595 NSZ

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KAR Project No.: 991474

Client: Roy F. Weston, Inc.

Date Reported:

04/07/99

Project Description: Analysis of one sample from Kalamazoo River Superfund (WW-EFF-027).

Sample :D:

"WW-EFF-027"

Sampled By: OGN of Roy F. Weston

Sample Date : 4/6/1999

Sample Time: 1200

Date Received: 4/6/1999

Sample Type : aqueous

KAR Sample No.: 991474-01

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PUBLIC SERVICES DEPARTMENT

Wasteward En in 1415 N. Far in n Kalamazoo Michigan 49007-2565 (616) 337-8777 Fax (616) 337-8777

LETTER OF COMPLIANCE

April 8, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent monthly self-monitoring results from your facility's sanitary sewer monitoring point (APE) for February 10, 1999 - March 10, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Industrial Inspections Supervisor

Bobet CODa

c Sue Foune, Technical Services Manager File

BOD dw/loc's\APE Allied Paper-EPA SM 2-99

FACILITY NAME: CONTACT PERSO	EDA - Allied N: Brad Stin	agoon_	_ Date: <u> </u>	18/99 : Roehou	
		,			
	spector for Review				
TYPE OF LETT	TER NEEDED				
LOV LETTER	(-1 = compliance	monitoring/-:	2 = self-monitor	ring) (check appro	opriate box)
□ BETX-1	□ BETX-2	□ Cd-1	□ Cd-2	□ Cn-1	□ Cn-2
□ Cn-3**	□ Cr-1	□ Cr-2	Cu-1	□ Cu-2	☐ Hg-1
□ Hg-1A*	□ Hg-2	□ Hg-2A*	☐ Hg-3**	□ Ni-1	□ Ni-2
□ Pb-1	□ Pb-2	□ PCB-1	□ PCB-2	□ PCB-3***	□ pH-1
□ pH-2	□ pH2-Cont	□ pH-3**	☐ TPH-1	☐ TPH-2	☐ TPH-3**
□ Zn-1	□ Zn-2	□ SNC	☐ Non-Comp	o	
	(S):			TE:	
Letter w/complian ** No resamples req *** Resample LOV	uired LOV letter w/samples required				
☑ LOC-2 (1 □ LOC-3 (0 □ LOC-4 (1	Compliance Monito Self-Monitoring) Groundwater Reme Special Monitoring Resampling)	diation Project			
Monitoring Point	(s): APE		DA	те: <u>2/11/99</u> -	- 3/3/99
Q/Q LETTER					
Monitoring Point Fo be applied to w			Date:		



Roy F. Weston, Inc. Allied Paper Inc. Operable Unit 266 E. Alcott St. Kalamazoo, IMI 49001 (616) 373-7010 Fax

Fax

To: 606	O'DAY	From:	LIONOTHY LA	audize
Fax: 334	1-8699	Pages:	10	
Phone: 33	7-8157	Date:	3/10/99	
Re: MONTAL	REPORT	CC:		
Urgent	For Review	Please Comment	Please Reply	Please Recycle
Comments:	MR. O'DA	Y:		
Plen Pen- Mon	ASE CONTACTAINING TO	CLANIFICAT	616) 373-7 100 ON TA	1008 on 7009,

THANK YOU TIM CAQUENTE



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

EPA-Allied Paper -acility:

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due:

3-10-99

Reporting Period:

2-10-99 HAM 3-10-99

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:

		Monthly Avg.			
<u>Pollutants</u>	Daily Max.	Max,	<u>Unit</u>	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/I		GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/l		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/I		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
рН	6.2-9.8		S.U.		GRAB

N/R	indicat	es Not	Rec	uired
-----	---------	--------	-----	-------

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Flow Information:	Average Daily (GPD) Maximum Daily (GPD)
Date and Time of Sampling:	Composite:
Grab:	Grab:
Grab:	Grab:
Note: If more than one batch is	discharged on the day of sampling, please sample each batch and composite

the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Scene Coordinator

Title:

Monthly Potal flow 883,42282 gallons

KAR Project No.: 990581

02/12/99 Date Reported:

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-011"

Client: Roy F. Weston, Inc.

Sampled By: CGN of Roy F. Weston, Inc.

Sample Date: 2/11/99

Sample Time: 0930

Date Received: 2/11/99 Sample Type: aqueous

KAR Sample No.: 990581-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep Hq	Completed		EPA 245.2	2/11/55	PNIL	
Prep metals	Completed		EPA 3011,200 x	2/11/59	PML	
Cadmium total	<5	ual	EPA 200 7	1 27256	PML	
Chromium, total	<10	ug/L	EPA 200 7	2/12/95	FML	
Copper total	150	uq/L	EPA 200 7	2/12/25	PML	
Leed, total, by ICP	<50	l vol	EPA 200 7	2/12/99	PML	
Mercury, total low level	<0.2	ucL	EPA 245 2	2/11/59	PML	
Nicket total	<20	ugh	EPA 200 7	2/12/99	PML	
Zinc total	20	ugl	EP4 200.7	21255	PML	
Cyenide, total	<5	vc/L	EPA 335 2	2/11/59	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	2/11/95	RJC	
•	8.3	עצ	EPA 150 1	2/11/95	PCH	
DNR Scar. 2	See below		EPA 8021	2/11/59	LAE	
Prep VOA	Completed		EPA 5030	2/11/95	LAE	
Benzens	<1	Jg/L	EPA 8021	2/11/95	LAE	
Ethylbanzana	<1	ug/L	EP4 802"	2/11/58	LAE	
M-crid/or p-xylene	<1	ugs	EPA 8021	2/11/59	LAE	
0-Xylene	<1	uga	EPA 8021	2/11/95	LAE	
Tcluene	<1	ugil	EPA 8021	2/11/59	LAE	
Preo ECD	Completed		EPA 3510	2/11/55	SAS	
PCB Arcciar 1918	<0.05	JgA	EPA 8082	2/11/68	MSZ	
PC8 Arcelor 1221	<0.05	JQ/L	EPA 8082	2/11/59	MSZ	
PC8 Aroclar 1232	<0.05	ugs	EPA 8082	2/1/55	MSZ	
PCB Arcclor 1242	<0.05	ua1	EPA 8082	2/11/95	MSZ	
PCB Arcelor 1248	<0.05	ug/L	EPA 8082	2/11/55	MSZ	
PCB Aroclar 1254	<c.05< td=""><td>JQ.1</td><td>EPA 8082</td><td>2/11/55</td><td>M5Z</td><td></td></c.05<>	JQ.1	EPA 8082	2/11/55	M5Z	
PCB Areclar 1250	<0.05	val.	EPA 8082	2/1/85	MSZ	
PCB Arcciars, total	NA	T	EPA 8082	2/11/55	MSZ	

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KARLaboratories, Inc. (616) 381-8666

Page 2

Tank#2 125,379 76901 Vischerge Colk 2112/99

actual discharge = 108,086 gul

KAR Project No.: 990620

Date Reported;

Client: Roy F. Weston, Inc.

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-012"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date : 2/15/99

Sample Time: 0918

Date Received: 2/15/99 Sample Type:

ZQU80US

KAR Sample No. : 990620-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo, Hg	Completed		EPA 245.2	2/15/99	PML	
Preo metals	Completed		EPA 30xx.200 x	2/15/99	PNL	
Cadmium total	<5 /	ug/L	EPA 200.7	2/16.88	PML	
Chromium, lotal	<10	ugh	EPA 200.7	2/16/59	PML	
Copper total	40 /	is 1/L	EPA 200.7	2/16/99	PML	
Lead, total, by ICP	<50	עמע	EPA 200 7	2/16/59	PML	
Morcury, total low level	<0.2	uq/L	EPA 245.2	2/16/99	PML	
Nickel, total	<20	ugh	EPA 200.7	2/18/99	PML	
Zinc, total	80	ug/L	EPA 200.7	21 6/88	PML	
Cyenide, total	<5 /	ug/L	EPA 335.2	2/15/95	VAS	
Gravimetric TPH (SGT-HEM)	<5 -··	mg/L	EP4 1664	2/15/08	RJC_	
PH	6.0	SU	EPA 150 1	2/15/99	POH	
MONR SCEN 2	See below		EPA 8021	215/90	LAE	
Prep. VOA	Completed		EPA 5030	2/15/99	LAE	
Benzene	<1 /	ug/L	EPA 8021	2/15/99	LAE	
Ethylberizene	<1	UQAL	EP4 8021	2/15/98	LAE	
M-end/or p-xylene	<1	uq/L	EPA 8021	275/98	LAE	
Q-Xylene	<1	ua/L	EP4 8021	2/15/59	LAE	
Taluene	<1	ug/L	EPA 8021	2/15/99	LAE	
Pres EGD	Completed		EPA 3535	2/15/99	SAS	
PCB Aradar 1016	<0.06	uo/L	EPA 8082	216/98	MSZ	
PCS Aroclar 1221	<0.05 -	ug/L	EPA 8082	27639	MSZ	
PCB Arcelor 1232	<0.05 ·	ug/L	EPA 8082	2/16/95	MSZ	
PCB Arcdor 1242	<0.95	ugs	EPA 8082	276/99	MSZ	
PCB Arcelor 1248	<0.05	ug.1	EPA 8082	2/16/99	MSZ	
PC8 Arcciar 1254	<0.05	rol	EPA 8082	2/16/99	MSZ	
PCB Aroclor 1260	<0.05	ug/L	EPA 8082	2/16/99	MSZ	
PCB Aroclars, total	MA		EPA 8082	2/16/95	MSZ	

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KARLaboratories, Inc.

(618) 381-9666

Page 2

Tank # 2) ischarge Calk 2/10/94 ===

Achol Discharge = 33" 95,115.68 gals

KAR Project No.: 990630

Date Reported: 02/17/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-013"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/16/99 Sample Time: 0900 Date Received: 2/16/99
Sample Type: aqueous
KAR Sample No.: 990630-01

, Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hg	Completed		EPA 245 2	02/16/99	DBL	
Prep. metals	Completed		EPA 30xx,200.x	02/16/99	MTM	
Cadmium, total	<5	ug/L	EPA 200.7	02/16/99	MTM	
Chromium, total	<10	ug/L	EPA 200.7	02/16/99	MTM	
Copper total	110	ug/L	EPA 200.7	02/16/99	MTM	
Lead, total, by ICP	<50	ug/L	EPA 200.7	02/16/99	MTM	
Mercury, total, low level	<02	ug/L	EPA 245 2	02/17/99	PML.	
Nickel, total	<20	ug/L	EPA 200.7	02/16/99	MTM	
Zinc, total	<10	ug/L	EPA 200.7	02/16/99	MTM	
Cyanide, total	<5	עפור	EPA 335.2	02/16/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	02/16/99	RJC	
PH	7.9	S.U.	EPA 150.1	02/16/99	POH	
MDNR Scan 2	See below		EPA 8021	02/16/99	LAE	
Prep VOA	Completed		EPA 5030	02/16/99	LAE	
Benzene	<1	υg/L	EPA 8021	02/16/99	LAE	
Ethylbenzene	<1	lug/L	EPA 8021	02/16/99	LAE	
M-and/or p-xylene	<1	Ug/L	EPA 8021	02/16/99	LAE	
O-Xylene	<1	ug/L	EPA 8021	02/16/99	LAE	
Toluene	<1	ug/L	EPA 8021	02/16/99	LAE	
Prep. ECD	Completed	*	EPA 3510	02/17/99	MJY	
PCB Aroclar 1015	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1221	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1232	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Arodor 1242	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclar 1260	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclors total	NA		EPA 8082	02/16/99	MSZ	

!ANZ # 1 = 45" = 129703.20GAS

ACTUAL DISGHANGE

= 43" = 123.938.61 GAS

2/17/99

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KARLaboratories, Inc.

KAR Project No.: 990696

Client: Roy F. Weston, Inc. Date Reported : 02/19/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-014"

Sampled By: OGN of Roy F. Weston, Inc. Date Received: 2/18/1999 Sample Date: 2/18/1999 Sample Type: aqueous KAR Sample No.: 990696-01 Sample Time: 1145

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3510	02/18/99	MJY	
PCB Arocior 1016	< 0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Arocior 1221	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1232	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1242	< 0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1260	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclors, total	NA		EPA 8082	02/18/99	MSZ	

2/19/99 MODILIAN TANK #2 DISCHAMBED TO CITY OF KALAMBER 92,233.38 GALLON

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Client: Roy F. Weston, Inc.

KAR Project No.: 990717 Date Reported: 02/23/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-015"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date : 2/22/1999 Sample Time : 1020 Date Received: 2/22/1999
Sample Type: aqueous
KAR Sample No.: 990717-01

' Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hg	Completed		EPA 245.2	02/22/99	DBL	
Prep, metals	Completed		EPA 30xx, 200, x	02/22/99	PML	
Cadmium, total	<5	ug/L	EPA 200.7	02/22/99	MTM	
Chromium, total	<10	ug/L	EPA 200.7	02/22/99	MTM	
Copper, total	50	ug/L	EPA 200.7	02/22/99	MTM	
Lead, total, by ICP	<50	ug/L	EPA 200.7	02/22/99	MTM	
Mercury, total, low level	<0.2	ug/L	EPA 245.2	02/23/99	MTM	
Nickel, total	<20	ug/L	EPA 200.7	02/22/99	MTM	
Zinc, total	70	ug/L	EPA 200.7	02/22/99	MTM	
Cyanide, total	<5	ug/L	EPA 335.2	02/22/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	02/22/99	DRA	
PH	7,6	S.U.	EPA 150.1	02/22/99	POH	
MDNR Scan 2	See below		EPA 624	02/22/99	JAR	
Prep, VOA	Completed		EPA 624	02/22/99	JAR	
Benzene	<1	ua/L	EPA 624	02/22/99	JAR	
Ethylbenzene	<1	ug/L	EPA 624	02/22/99	JAR	
M-and/or p-xylene	<1	ug/L	EPA 524	02/22/99	JAR	
O-Xylene	<1	ug/L	EPA 624	02/22/99	JAR	
Toluene	<1	ug/L	EPA 624	02/22/99	JAR	· · · · · · · · · · · · · · · · · · ·
Prep, ECD	Completed		EPA 3510	02/22/99	SAS	
PCB Aroclor 1016	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1221	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Arocior 1232	<0.05	ug/L	EPA 8082	02/23/991	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1260	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclors, total	NA		EPA 8082	02/23/99	MSZ	

128,350.00 GALLONS
2/22/99

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KAR Project No.: 990807

02/26/99 Date Reported:

Project Description: Analysis of two aqueous samples from Kalamazoo River Superfund.

Sample ID: "WW-EFF-016"

Sampled By: OGN of Roy F. Weston

Client: Roy F. Weston, Inc.

Sample Date: 2/25/99 Sample Time: 1115

Date Received: 2/25/99 Sample Type: aqueous

KAR Sample No.: 990807-02

OZIMPIO TIMO I TITO						
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	2/25/99	MLY	
PCB Aroclar 1015	₹0.05	uc/L	EPA 8032	2/28/89	MSZ	
PCB Aroclar 1221	<0.05	JO/L	EPA 5082	2/26/95	MSZ	
PCB Aroclar 1232	<0.05	ug/L	EPA 8082	2/26/99	MSZ	
PCB Aroclar 1242	<0.05	ual	EPA 8052	2/26/59	MSZ	
PCB Arodior 1248	<0.05	ual	EPA 8082	2/25/99	MSZ	
PCB Aroclar 1254	<0.05	ug.L	EPA 8082	2/28/99	MS2	
PCB Aroclar 1260	<0.05	nd/c	EPA 8082	2/28/99	MSZ	
PCB Arcclors, total	NA		EPA 8082	226/99	MSZ	

TANK#2

DISCHARGED TO CITY OF KALAMAZEDO 21,199

3/1/99

100,880.27 GALLONS

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KARLaboratories, Inc.

KAR Project No.: 990862

Client: Roy F. Weston, Inc.

Date Reported:

03/03/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-017"

Sampled By: GN of Roy F. Weston

Sample Date: 3/1/99 Sample Time: 1630

Date Received : 3/2/99

Sample Type: aqueous

KAR Sample No.: 990852-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hc	Completed		EPA 245.2	3/3/99	DBL	
Prep, metals	Completed		EPA 30xx, 200 x	3/2/99	PML	
Cedmium, total	<5	ug/L	EPA 200.7	3/3/99	PML	
Chromium, lotal	<10	ugit	EPA 200 7	3/3/99	PML	
Copper total	20	ugl	EPA 200.7	33/99	PHIL	
Lead, total, by ICP	<50	UQ/L	EPA 200.7	3/3/98	PML	
Marcury, total, low level	<0.2	UOL	EPA 245 2	3/3/99	DBL	
Nickel, total	<20	uail	EPA 200.7	3/3/99	PML	
Zino, total	<10	ugs	EPA 200 7	3/3/99	PML	
Cyanide, total	<5	ug/L	EPA 335 2	3/3/99	VAS	
Gravimetic TPH (\$GT-HEM)	<5	mg/L	EPA 1864	3/2/99	RJC	
PH	7,7	S.U.	EPA 150.1	3/2/99	JMS	Sample received past holding time result is approximate.
MDNR Scan 2	See below		EPA 8021	3/2/98	LAE	
Prep, VOA	Completed		EPA 5030	3/2/99	LAE	
Berzene	<1	Ual	EPA 8021	3/2/99	LAE	
Ethylbenzene	<1	Jal	EPA 8021	3/2/99	LAE	
M-end/or p-xylene	<1	UCIL	EPA 8021	3/2/95	LAE	
Q-Xylene	<1	ual	EPA 8021	3/2/99	LAE	
Toluene	<1	ug/L	EPA 8021	3/2/59	LAE	
Prep. ECD	Completed		EPA 3510	3/2/88	SAS	
PCB Aroclor 1018	<0.05	uar	EPA 8082	3/3/99	MSZ	
PCB Aroclar 1221	<0.05	ug/L	EPA 8082	3/3/55	MSZ	
PCB Aroclor 1232	<0.05	ug/L	EPA 8082	3/3/98	MSZ	
PCB Arocior 1242	<0.05	ug/L	EPA 8082	3/3/99	MSZ	
PCB Arodor 1248	<0.05	ug/L	EPA 8082	3/3/99	MSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	3/3/59	MSZ	
PCB Araciar 1260	<0.05	ug/L	EPA 8082	3/3/99	MSZ	
PCB Araclars, total	NA		EPA 8082	3/3/99	MSZ	

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KAR Laboratories, Inc.

(616) 381-9686

Page 2

MODULAR LANG # 1 DISCHARGED TO CITY OF KARAMATE. 3/3/99

KAR Project No.: 990910

Client: Roy F. Weston, Inc.

Date Reported:

03/04/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID:

"WW-EFF-18"

Sampled By: OGN of Roy F. Weston

Sample Date: 3/3/99

Sample Time: 1330

Date Received: 3/3/99 Sample Type:

adnaons

KAR Sample No.: 990910-01

Test	Result	Units of Measure	Medical	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	3/3/99	SAS	
PCB Aroclar 1018	<0.05	ugil	EPA 8082	3/4/99	MSZ	
PCB Aroclar 1221	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PCB Aroctor 1232	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PCB Aroclar 1242	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PGB Arocior 1248	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PCB Arodor 1254	<0.05	ugh	EPA 8082	3/4/99	MSZ	
PCB Arackor 1260	<0.05	Ug/L	EPA 8082	3/4/99	MSZ	
PCB Araciors, total	NA		EPA 8082	3/4/99	MSZ	

MODULAR PANK #2 3/5/99 DISCHARGED TO CITY OF KALAMARE 115,291.73 gauons

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KAR Laboratories, Inc.



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

:acility*	EPA-Allied	Paper
acility.	CL W.Winen	: apc.

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due: 2/10/99

Reporting Period: 11, 99 - 1/31/99

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:		Monthly Avg.			
Pollutants	Daily Max,	Max.	<u>Unit</u>	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/I		GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/l		GRAB
PCBs	Prohibited		ug/i		GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/I		GRAB
рН	6.2-9.8		S.U.		GRAB

N/R indicates N	PLEASE ATTACH COPIES OF LABORATORY RESULTS				
Flow Information:	Average Da	illy (GPD)	<u> </u>	Maximum Daily (GPD)	
Date and Time of Sampling	3 ;	Compos	ite:		
Grab:		Grab: _			
Grab:		Grab: _			

Note: If more than one batch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Eased on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Title:

Cene Coordinator

Monthly Total flow of gallons

Date





KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

Facility: EPA-Allied Paper

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due: 11/10/98

Reporting Period: 101, 98-10/3, 98

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:		Monthly Ayg.	11-14	Post of the	0 1.7
Pollutants	Daily Max.	<u>Max.</u>	Unit	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/i		GRAB
COPPER	2230		ug/i		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/l		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/I		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
pH	6.2-9.8		ຣ.ັບ.		GRAB

N/R indicates Not Re	uired PLEASE ATTACH COPIES OF LABORATORY RESULT	S
Flow Information:	Average Daily (GPD) Maximum Daily (GPD)	
Date and Time of Sampling:	Composite:	
Grab:	Grab:	
Grab:	Grab:	
Mater If more than one batch in	inches and an the day of annually a place a country of the till t	

Note: If more than one batch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

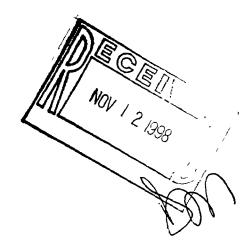
Sample each batch for PCB's

Contact:

Title:

Scene Coordinator

Monthly Total flow _ gallons





PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrion Kalamazoo Michigan 49007 2565 (616) 337-8699 Fax (616) 337-8699

LETTER OF COMPLIANCE

April 8, 1999

Mr. Brad Stimple EPA - Allied Paper 77 West Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

Enclosed please find the most recent compliance monitoring sample results collected from your facility's sanitary sewer monitoring point (APE) on February 12, 1999. The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant. Please note, this letter replaces the letter dated March 23, 1999.

If you have any questions regarding your sample results or any other issues, please contact me at 616-337-8705.

Sincerely,

С

Robert C. O'Day

Industrial Inspections Supervisor

Sue Foune, Technical Services Manager File

BOD.dw/loc's\APE Alhed Paper-EPA CM 2-12-99



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

acility: **EPA-Allied Paper**

77 North Jackson Blvd., SE-5J

N/R indicates Not Required

Chicago IL 60604

1/10/98 Due:

Reporting Period: 12/1/98 - 12/31/98

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:		Monthly Avg.			
Pollutants	Daily Max.	Max.	Unit	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/I	******************************	GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		nā\]		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
рН	6.2-9.8		S.U.		GRAB

PLEASE ATTACH COPIES OF LABORATORY RESULTS _ Average Daily (GPD) __ Maximum Daily (GPD) Date and Time of Sampling: Composite: Grab: Grab: Grab: Note: If more than one batch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and avaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Sample each batch for PCB's Contact: SEPA REHOWS Title:

Monthly Total flow 99,267 DE gallons

KARLaboratories. Inc.

Roy F. Weston, Inc. 266 E. Alcott St. Kalamazoo. Ml 49001

985392 KAR Project No.: 12/23/98 Date Reported:

Date Activated: Date Due:

12/17/98 12/23/98

Attn: Mr. Hal Blakemore

Date Validated: 12/23/98

4425 Manchester Road Kalamazoo Mi 49001

Phone 616 381-9666

Fax 616 381-9698

Project

Description: Analysis of one aqueous sample from Kalamazoo Rapid.

From: Sandy Mertz

Dear Client,

Your laboratory data is presented to you in this report. Unless otherwise stated under the "Comments" heading, all tests were performed within the maximum allowable holding times, have met or exceeded QC requirements and the result represents the sample as it was received.

If you wish to contact us about this work please mention KAR Project No. 985392 To arrange additional sampling or testing please contact our Client Services Department. If you have a question regarding quality assurance please contact William Rauch.

Thank you for the opportunity to serve you. Please do not hesitate to call if we can provide additional assistance

Respectfully submitted,

Michael J Jaeger Director of Laboratories

KAR Laboratories inclimatina Full Certification status for Bacteriology Inorganics, Regulated Organics and Synthetic Organics through USEPA Michigan Department of Public Health and Indiana State Department of Health. This report may only be reproduced in full and not without the written consent of Roy F. Weston, Inc.

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KAR Project No.: 985392

Client: Roy F. Weston, Inc.

Date Reported:

12/23/98

Project Description: Analysis of one aqueous sample from Kalamazoo Rapid.

Sample ID:

<u>"WW-eff-010"</u>

Sampled By:

Sample Date: 12/16/98

Sample Time: 1700

Date Received :

12/17/98 aqueous

Sample Type:

KAR Sample No.: 985392-01

Result Units of Measure Method Analyzed Analyst Comments 12/18/98 Prep ECD Completed EPA 3510 SAS EPA 8082 12/21/98 PCB Aroclor 1016 <0 95 ug/L MSZ EPA 8082 12/21/98 PCB Arcclor 1221 <0.05 MSZ ug/L EPA 8082 PCB Aroclor 1232 < 0.05 12/21/98 MSZ ug/L PCB Aroclor 1242 < 0.05 ug/L EPA 8082 12/21/98 MSZ 12/21/98 PCB Arccior 1248 < 0.05 EPA 8082 MSZ ug/L PCB Aroclor 1254 < 0.25 EPA 8082 12/21/98 MSZ ug/L PCB Aroclor 1260 <0.05 UQ/L EPA 8082 12/21/98 12/21/98 PCB Arociors, total EPA 8082 MSZ

J. German 2

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3352 128th Avenue, Holland, Michigan 49424-9263 Phone: 616-399-6070 FAX 616-399-6185

E-mail info@wmesi com Internet: http://www.wmesi.com

CLIENT:

Roy F. Weston, Inc 266 E. Alcott Kalamazoo, MI 490

49001

Attn: Hal Blakemore

Re: Kalamazoo River Superfund

DATE:

December 15, 1998

ANALYSIS OF:

Water Sample

REPORTED BY:

Laboratory Manager

DATE RECEIVED:

Received from client on December 14, 1998.

Sample ID: WW-EFF-009

Lab ID: 9812194-01

Collected: 12/14/98

TEST	RESULT	UNITS	ANALYZED	BY	NETROD	MOL
Alumina Cleanup	12/15/98	date completed		DGK	EPA 3611	
Florisil Cleanup	12/15/98	date completed		DGK	EPA 3620	
Lig/Lig Ext. for PCBs	12/15/98	prep. date		DGK	EPA 3510	
Polychlorinated Biphenyls	, ,	•			EPA 8082	
PCB-1016	ND	μg/Ľ	12/15/98	DGK		0.12
PCB-1221	CM	μg/Ľ	12/15/98	DGK		0.10
PCB-1232	ND	μg/L	12/15/98	DGK		0.12
PCE-1242	ND	μg/L	12/15/98	DGK		0.12
PCB-1248	ND	μg/L	12/15/98	DGK		0.10
PCB-1254	ND	μα/L	12/15/98	DGX		0.10
PCB-1260	מא	μg/L	12/15/98	DGK		0.11
Total PCBs	N/A	μq/L	12/15/98	DGK		N/A
Silica Gel Cleanup	12/15/98	date completed	10,10,10	DGK	EPA 3630	N/A





3352 128th Avenue, Holland, Michigan, 49424-9263 Phone: 616-399-6070 FAX. 616-399-6185

E-mail info@wmesi.com

Internet: http://www.wmcsi.com

CLIENT:

Roy F. Weston, Inc 266 E. Alcott

Kalamazoo, MI 49001

Attn: Hal Blakemore

Kalamazoo River Superfund

DATE:

December 11, 1998 - Revised December 15, 1998

ANALYSIS OF:

Water Sample

REPORTED BY:

aboratory Hanager

DATE RECEIVED:

Received from client on December 10, 1998.

Sample ID: WW-EFF-008

Lab ID: 9812157-01

Collected: 12/10/98

TEST	RESULT	UNITS	ANALYZED	BY	MRTHOD	MOL
Alumina Cleanup	12/11/98	date completed		WJC	EPA 3611	
Florisil Cleanup	12/11/58	date completed		WJC	EPA 3620	
Lig/Lig Ext. for PCBs	12/11/98	prep. date		WJC	SPA 3510	
Polychlorinated Biphenyla	,	- -			EPA 8082	
PCB-1016	ND	μg/L	12/11/98	DGK		0.17
PCB-1221	ND	μg/L	12/11/98	DGK		0.12
PCB-1232	ND	μα/L	12/11/98	DGK		0.17
PCB-1242	מא	µg/L	12/11/98	DGK		0.17
PCB-1248	מא	μg/L	12/11/98	DGK		0.10
PCB-1254	ND	μg/L	12/11/98	DGK		0.12
PCB-1260	ND	μg/L	12/11/98	DGX		0.12
Total PCBs	N/A	μg/L	12/11/98	DGX.		N/A
Silica Gel Cleanup	12/11/98	date completed	, ==, = =	WJC	EPA 3630	•





3352 128th Avenue Holland, Michigan 49424-9263 Phone: 616-399-6070 FAX: 616-399-6185 E-mail info@wmesi.com Internet http://www.wmcsi.com

CLIENT:

Roy F. Weston, Inc 266 E. Alcott

Kalamazoo, MI 49001

Attn: Hal Blakemore

Re: Kalamazoo River Superfund

DATE:

December 11, 1998

ANALYSIS OF:

Water Sample

REPORTED BY:

DATE RECEIVED:

Received from client on December 10, 1998.

Sample ID: WW-EFF-008

Lab ID: 9812157-01 Collected: 12/10/98

TEST	RESULT	UNITS	ANALYZED	BY	METHOD	NDL
Alumina Cleanup	12/11/98	date completed		WJC	EPA 3611	
Florisil Cleanup	12/11/98	date completed		WJC	EPA 3620	
Lig/Lig Ext. for PCBs	12/11/98	prep. date		WJC	EPA 3510	
Polychlorinated Biphenyls		•			EPA 8082	
PCB-1016	ND	μg/L	12/11/98	DGK		0.17
PCB-1221	ND	μg/L	12/11/98	DGK		0.12
PCB-1232	ND	µg/L	12/11/98	DGK		0.17
PCB-1242	СИ	μg/L	12/11/98	DGK		0.17
PCB-1248	ND	μg/L	12/11/98	DGK		0.10
PCB-1254	ND	μg/L	12/11/98	DGK		0.12
PCB-1260	ND	μg/L	12/11/98	DGK		0.12
Total PCBs	ND	μg/L	12/11/98	DGK		0.41
Silica Gel Cleanup	12/11/98	date completed	,,	WJC	BPA 3630	



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

acility:

EPA-Allied Paper

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due: 12/10/98

Reporting Period: 11/1/98 - 11/30/98

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:		Monthly Ava.		•	
Pollutants	Daily Max.	Max.	Unit	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/l		GRAB
COPPER	2230		ug/i		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/l		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/i		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
рН	6.2-9.8		s.v.		GRAB

-	. LENGE AT MOTE DOT LES DE L'AUGUSTION L'ENGE LE
Flow Information:	Average Daily (GPD) Maximum Daily (GPD)
Date and Time of Sampling:	Composite:
Grab:	Grab:
Grab:	Grab:

Note: If more than one batch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Brad Stimple

N/R indicates Not Required

12/2/98

Date

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Title:

US EPA RESIDUS On-Scene Coordinator

Monthly Total flow ogallons



Monitoring results	from EPA-Allied	l Paper: Sample I ocati	on APE from 2/12/99 to 2	7/12/99
morniorning results		i i apci. Odinpic Eocati		., 12/00

arameter	Result		Detection Limit	<u>Date</u>	Sample Type	<u>Time</u>	Reason for Analysis
,1,1,2-TETRACHLOROETHENE	0.00 ug/l	*	4.40 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG:	0.00						
,1,1-TRICHLOROETHANE	0.00 ug/l	*	2.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG:	0.00						
1,1,2,2-TETRACHLOROETHANE	0.00 ug/l	*	3.90 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,1,2-TRICHLOROETHANE	0.00 ug/l	*	4.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,1-DICHLOROETHANE	0.00 ug/l	*	2.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0 00						
1,1-DICHLOROETHENE	0.00 ug/l	*	2.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,1-DICHLOROPROPENE	0.00 ug/l	*	2.30 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,2,3-TRICHLORO BENZENE	0.00 ug/l	*	8.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,2,3-TRICHLOROPROPANE	0.00 ug/l	*	11.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,2,4-TRICHLOROBENZENE	0.00 ug/l	*	6.60 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,2,4-TRIMETHYL BENZENE	0.00 ug/1	*	4.40 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,2-DIBROMO-3-CHLORO PROPANE	0.00 ug/l	*	4.90 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						
1,2-DIBROMOETHANE	0.00 ug/l	*	4.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
AVG	0.00						

^{*} indicates monitoring result below detection limit

Monitoring results from EPA-Allied Paper: Sample Location APE from 2/12/99 to 2/12/99

arameter		Result		Detection Limit	<u>Date</u>	Sample Type	<u>Time</u>	Reason for Analysis
1,2-DICHLOROBENZENE		0.00 ug/l	*	5.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
1,2-DICHLOROETHANE		0.00 ug/l	*	1.90 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
1,2-DICHLOROPROPANE		0.00 ug/l	*	2.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
1,3,5-TRIMETHYL BENZENE		0.00 ug/l	*	3.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
1,3-DICHLOROBENZENE		0.00 ug/l	*	5.90 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
1,3-DICHLOROPROPANE		0.00 ug/l	*	3.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
1,4-DICHLOROBENZENE		0.00 ug/l	*	7.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0 00						
2,2-DICHLOROPROPANE		0.00 ug/l	*	2.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
2-CHLORO TOLUENE		0.00 ug/l	*	4.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
2-NITROPROPANE		0.00 ug/l	*	5.30 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
4-CHLORO TOLUENE		0.00 ug/l	*	4.40 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
4-METHYL 2-PENTANONE		0.00 ug/l	*	4.20 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
ACETONE		0.00 ug/l	*	10.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						

^{*} indicates monitoring result below detection limit

Monitoring results	from EPA-Allied Pa	aper: Sample Loca	ation APE from 2/12/99 to 2/	12/99

arameter ACRYLONITRILE		Result 0.00 ug/l	*	Detection Limit 3.10 ug/l	<u>Date</u> 2/12/99	Sample Type GRAB	<u>Time</u> 9:00:00 AM	Reason for Analysis Compliance Monitoring
	AVG:	0.00		5 ug.				osmphanos montoning
ALLYL CHLORIDE		0.00 ug/l	*	2.30 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
AMMONIA NITROGEN		1.24 mg/l			2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	1.24						
ARSENIC		0.00	*	2.00 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
BENZENE		0.00 ug/l	*	3.20 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
BROMOBENZENE		0.00 ug/l	*	5.80 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
BROMOCHLOROMETHANE		0.00 ug/l	*	1.90 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
BROMODICHLOROMETHANE		0.00 ug/l	*	2.20 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
BROMOFORM		0.00 ug/l	*	8.60 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
BROMOMETHANE		0.00 ug/l	*	7.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CADMIUM		0.00	*	10.00 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CARBON DISULFIDE		0.00 ug/l	*	2.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CARBON TETRACHLORIDE		0.00 ug/l	*	2.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						

^{*} indicates monitoring result below detection limit

Monitoring results from EPA-Allied Paper: Sample Location APE from 2/12/99 to 2/12/99	
_ ·	

<u>arameter</u>		Result		Detection Limit	<u>Date</u>	Sample Type	<u>Time</u>	Reason for Analysis
CBOD 5-DAY		0.00	*	40.00 mg/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CHLOROACETONITRILE		0.00 ug/l	*	3.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0 00						
CHLOROBENZENE		0.00 ug/l	*	2.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CHLOROETHANE		0.00 ug/l	*	1.60 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CHLOROFORM		0.00 ug/l	*	1.90 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CHLOROMETHANE		0.00 ug/l	*	7.20 ug/i	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CIS-1,2-DICHLOROETHENE		0.00 ug/l	*	2.80 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CIS-1,3-DICHLOROPROPENE		0.00 ug/l	*	2.90 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
COD		37.00 mg/l			2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	37.00						
COPPER		0.00	*	20.00 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
CYANIDE		0.00	*	20.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
DIBROMOCHLOROMETHANE		0.00 ug/l	*	3.80 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
DIBROMOMETHANE		0.00 ug/l	*	2.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						

^{*} indicates monitoring result below detection limit

Monitoring results fro	m EPA-Allied Paper:	Sample Location A	APE from	2/12/99 to 2/12/99
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'arameter		Result		<u>Detection Limit</u>	<u>Date</u>	Sample Type	<u>Time</u>	Reason for Analysis
DICHLOROACETONE		0.00 ug/l	*	4.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
DICHLORODIFLUOROMETHA	NE	0.00 ug/l	*	6:40 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG [.]	0 00						
DIETHYL ETHER		0.00 ug/l	*	3.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
ETHYL METHACRYLATE		0.00 ug/l	*	11.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0 00						
ETHYLBENZENE		0.00 ug/l	*	2.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
HEXACHLOROBUTADIENE		0.00 ug/l	*	5.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
HEXACHLOROETHANE		0.00 ug/l	*	3.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0 00						
IODOMETHANE		0.00 ug/l	*	11.90 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
SOPROPYL BENZENE		0.00 ug/l	*	3.40 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
LEAD		0.00	*	2.00 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
MERCURY		0.00	*	0.50 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG	0.00						
METHACRYLONITRILE		0.00 ug/l	*	3.60 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
METHYL ACRYLATE		0.00 ug/l	*	8.60 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						-

^{*} indicates monitoring result below detection limit

Monitoring results from EPA-Allied Paper: Sample Location APE from	2/12/99 to 2/12/99
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Parameter METHYL BUTYL KETONE		Result 0.00 ug/l	*	Detection Limit 6.00 ug/l	<u>Date</u> 2/12/99	Sample Type GRAB	<u>Time</u> 9:00:00 AM	Reason for Analysis Compliance Monitoring
	AVG:	0.00		-				3
METHYL ETHYL KETONE		0.00 ug/l	*	8.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
METHYL METHACRYLATE		0.00 ug/l	*	8.80 ug/l	2/12/99	GRAB	9;00;00 AM	Compliance Monitoring
	AVG:	0.00						
METHYL-T-BUTYL ETHER	,, , , , , , , , ,	0.00 ug/l	*	3.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
METHYLENE CHLORIDE		0.00 ug/l	*	3.60 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
N-BUTYL BENZENE		0.00 ug/l	*	3.60 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
N-BUTYL CHLORIDE		0.00 ug/l	*	2.80 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
N-PROPYL BENZENE		0.00 ug/l	*	3.50 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
NAPHTHALENE		0.00 ug/l	*	8.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
NICKEL		0.00	*	40.00 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.00		_				
NITROBENZENE		0.00 ug/l	*	5.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
P-ISOPROPYL TOLUENE		0.00 ug/l	*	3.20 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
PCBs		0.00	*	0.10 ug/l	2/12/99	GRAB	7:00:00 AM	Compliance Monitoring
	AVG:	0.00						

^{*} indicates monitoring result below detection limit

'arameter		Result		Detection Limit	<u>Date</u>	Sample Type	<u>Time</u>	Reason for Analysis
PENTACHLOROETHANE		0.00 ug/l	*	5.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00		-				,
PROPIONITRILE	-	0.00 ug/l	*	10.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
SEC-BUTYL BENZENE		0.00 ug/l	*	3.80 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
SILVER		0.00	*	10.00 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
SOLUBLE PHOSPHORUS		0.04 mg/l			2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.04						
STYRENE		0.00 ug/l	*	2.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
T-1,4-DICHLORO-2-BUTENE		0.00 ug/l	*	3.20 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
T-BUTYL BENZENE		0.00 ug/l	*	3.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
TETRACHLOROETHENE		0.00 ug/l	*	8.00 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
TETRAHYDROFURAN		0.00 ug/l	*	5.60 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
TOLUENE		0.00 ug/i	*	3.70 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
TOTAL CHROMIUM		0.00	*	20.00 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring
	AVG:	0.00						
TOTAL PETROLEUM HYDRO	CARBON	3.12 mg/l			2/12/99	GRAB	9:00:00 AM	Compliance Monitoring
	AVG:	3.12						

^{*} indicates monitoring result below detection limit

Monitoring results from EPA-Allied Paper: Sample Location APE from 2/12/99 to 2/12/99									
arameter TOTAL PHOSPHORUS	Result 0.18 mg/l		<u>Detection Limit</u>	<u>Date</u> 2/12/99	Sample Type 24 HOUR COMP.	<u>Time</u> 9:00:00 AM	Reason for Analysis Compliance Monitoring		
AVG:	0 18								
TOTAL SUSPENDED SOLIDS	15.00 mg/l			2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring		
AVG	15.00								
RANS-1,2-DICHLOROETHENE	0.00 ug/l	*	3.00 ug/f	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring		
AVG	0.00								
RANS-1,3-DICHLOROPROPENE	0.00 ug/l	*	3.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring		
AVG	0.00								
RICHLOROETHENE	0.00 ug/l	*	3.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring		
AVG	0.00								
RICHLOROFLUOROMETHANE	0.00 ug/l	*	2.10 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring		
AVG	0.00								
INYL CHLORIDE	0.00 ug/l	*	2.30 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring		
AVG	0.00								
OLATILE SUSPENDED SOLIDS	5.00 mg/l			2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring		
AVG	5.00								
(YLENE	0.00 ug/l	*	6.40 ug/l	2/12/99	GRAB	9:00:00 AM	Compliance Monitoring		
AVG	0.00								
ZINC	0.00	*	10.00 ug/l	2/12/99	24 HOUR COMP.	9:00:00 AM	Compliance Monitoring		
AVG	0.00								
pH	7.70 S.U.			2/12/99	GRAB	9:00:00 AM	Compliance Monitoring		
AVG	7.70								

^{*} indicates monitoring result below detection limit



PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 337-8157 Fax (616) 337-8699

LETTER OF COMPLIANCE

March 23, 1999

Mr. Brad Stimple EPA - Allied Paper 77 W. Jackson Blvd. Chicago, IL 60604

Dear Mr. Stimple:

We have received the most recent self-monitoring results from your facility's sanitary sewer monitoring point (APE). The sample results indicate this monitoring point is in compliance with the regulated limits for discharge to the Kalamazoo Water Reclamation Plant.

If you have any questions regarding the compliance status of your facility, or any other issues, please contact me at 337-8705.

Sincerely,

Robert C. O'Day

Propert C

Industrial Inspections Supervisor

c Sue Foune, Technical Services Manager File

BOD:dw/loc's/APE EPA-Allied Paper CM 2-99

L(OC, LOV &	& QQ LET	TER REQ	UEST FOR	M				
FACILITY NAME: 1 CONTACT PERSON	EPA-Allied 1 1: Mr. Brad St	DATE: 3/22/99 INSPECTOR: Rochow							
□ Copy:		•							
☐ Return draft to Ins									
□ Special Instructio	ns:								
Type of Lett	ER NEEDED								
□ <u>LOV LETTER</u>	(-1 = compliance	monitoring / -:	2 = self-monito	ring) (check appro	opriate box)				
□ BETX-1	□ BETX-2	□ Cd-1	□ Cd-2	□ Cn-1	□ Cn-2				
□ Cn-3**	□ Cr-1	□ Cr-2	□ Cu-1	□ Cu-2	□ Hg-1				
□ Hg-1A*	□ Hg-2	□ Hg-2A*	☐ Hg-3**	□ Ni-1	□ Ni-2				
□ Pb-1	□ Pb-2	□ PCB-1	□ PCB-2	□ PCB-3***	□ pH-1				
□ pH-2	□ pH2-Cont	□ pH-3**	☐ TPH-1	☐ TPH-2	☐ TPH-3**				
□ Zn-1	□ Zn-2	□ SNC	☐ Non-Com	p					
			Date:						
* Letter w/complianc ** No resamples requ *** Resample LOV v	e schedule uired LOV letter								
☑ <u>LOC LETTER</u>									
□ LOC-2 (S □ LOC-3 (C	Compliance Monitoring) Groundwater Remeducial Monitoring Resampling)	ediation Project)						
Monitoring Point	(s): APE		DA	TE: 2/12/9	9				

_____Date:_____

□ Q/Q LETTER

MONITORING POINT:

TO BE APPLIED TO WHAT MONTH'S BILL?___

02/22/99

KAR Laboratories, Inc.

Attn: Ms. Sue Foune

Kalamazoo Water Reclamation Plant
1415 N. Harrison
Kalamazoo, MI 49007

Date Reported: 02/26/99
Date Activated: 02/17/99
Date Due: 03/03/99

Date Validated:

4425 Manchester Road

Kalamazoo MI 49001

Phone 616 381-9666

Fax 616 381-9698

Project

Description: Analysis of one aqueous sample (KWRP C-of-C #5001).

Dear Client,

Your laboratory data is presented to you in this report. Unless otherwise stated under the "Comments" heading, all tests were performed within the maximum allowable holding times, have met or exceeded QC requirements and the result represents the sample as it was received.

If you wish to contact us about this work please mention KAR Project No 990672 To arrange additional sampling or testing please contact our Client Services Department. If you have a question regarding quality assurance please contact William Rauch.

Thank you for the opportunity to serve you. Please do not hesitate to call if we can provide additional assistance.

Respectfully submitted,

Michael J Jaeger

Director of Laboratories

KAR Laboratories Inc maintains Full Certification status for Bacteriology Inorganics Regulated Organics and Synthetic Organics through USEPA Michigan Department of Public Health and Indiana State Department of Health. This report may only be reproduced in full and not without the written consent of Kalamazoo Water Reclamation Plant.

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KAR Project No.: 990672

Client: Kalamazoo Water Reclamation Plant Date Reported: 02/26/99

Project Description: Analysis of one aqueous sample (KWRP C-of-C #5001).

Sample ID: "EPA Bryant Millpond, 04399"

Sampled By: JB of KWRP

Sample Date: 2/12/99

Sample Time: 7:00am

Date Received: 2/17/99

Sample Type: aqueous

KAR Sample No.: 990672-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	2/18/99	MJY	
PCB Aroclor 1016	<01	ug/L	EPA 8082	2/18/99	MSZ	
PCB Aroclor 1221	<01	ug/L	EPA 8082	2/18/99	MSZ	
PCB Aroclor 1232	<01	ug/L	EPA 8082	2/18/99	MSZ	
PCB Aroclor 1242	<01	ug/L	EPA 8082	2/18/99	MSZ	
PCB Aroclor 1248	<01	ug/L	EPA 8082	2/18/99	MSZ	
PCB Aroclor 1254	<01	ug/L	EPA 8082	2/18/99	MSZ	
PCB Aroclor 1260	<01	ид∕L	EPA 8082	2/18/99	MSZ	
PCB Aroclors, total	NA		EPA 8082	2/18/99	MSZ	

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KAR Laboratories, Inc. . . .

SAMPLE LOCATION: BRYANT MILL POND

SAMPLE ID NUMBER: APE-04399
SAMPLE DATE: 2/12/99
SAMPLE TIME: 9:00AM
ANALYSIS DATE: 2/22/99
COC NUMBER 19688

		18000
Posuite are in poblugill		
Results are in ppb(ug/l) EPA METHOD 624		
EPA METHOD 024		
	MDL	
Chloromethane	7.2	Not Detected
	2.3	Not Detected
Vinyl Chloride	2.3 7.5	Not Detected
Bromomethane	7.5 1.6	Not Detected
Chloroethane	7.0 2.1	Not Detected
Trichlorofluoromethane	2.1 2.5	Not Detected
1,1-Dichloroethene		Not Detected
Methylene Chloride	3.6	Not Detected
t-1,2-Dichloroethene	3.0 2.7	Not Detected
1,1-Dichloroethane		Not Detected
Chloroform	1.9	Not Detected
1,1,1-Trichloroethane	2.1	Not Detected
Carbon Tetrachlonde	2.7	Not Detected
1,2-Dichloroethane	1.9	Not Detected
Trichloroethene	3.1	Not Detected
1,2-Dichloropropane	2.7	Not Detected
· · · · · ·		
	= -	
1,2-Dichlorobenzene	5.7	Not Detected
BTEX COMPOUNDS		
Benzene	3.2	Not Detected
Toluene	3.7	Not Detected
Ethylbenzene	2.7	Not Detected
m&p-Xylene	6.4	Not Detected
o-Xylene	2.8	Not Detected
Additional VOC's by 8260		
Dichlorodifluoromethane	64	Not Detected
Diethyl Ether	3.0	Not Detected
Acetone	10.1	Not Available
lodomethane	11.9	Not Detected
Carbon Disulfide	2.5	Not Detected
Aliyi Chlonde	2.3	Not Detected
Acrylonitale	3.1	Not Detected
Methyl -t-Butyl Ether	3.5	Not Detected
2,2-Dichloropropane	2.5	Not Detected
Benzene Toluene Ethylbenzene m&p-Xylene o-Xylene Additional VOC's by 8260 Dichlorodifluoromethane Diethyl Ether Acetone lodomethane Carbon Disulfide Allyl Chloride Acrylonitnie Methyl -t-Butyl Ether	3.7 2.7 6.4 2.8 64 3.0 10.1 11.9 2.5 2.3 3.1 3.5	Not Detected Not Detected Not Detected Not Detected Not Detected Not Detected Not Available Not Detected

SAMPLE LOCATION:

BRYANT MILL POND

SAMPLE ID NUMBER: SAMPLE DATE: SAMPLE TIME: ANALYSIS DATE:

COC NUMBER

APE-04399 **2/12/99** 9:00AM 2/22/99 19688

Results are in ppb(ug/l) EPA METHOD 624

	MDL	
c-1,2-Dichloroethene	2.8	Not Detected
Methyl Ethyl Ketone	8.5	Not Detected
Propionitrile	10.0	Not Detected
Methyl Acrylate	8.6	Not Detected
Bromochloromethane	1.9	Not Detected
Methacrylonitrile	3.6	Not Detected
Tetrahydrofuran	5.6	Not Detected
n-Butyl Chloride	2.8	Not Detected
1,1-Dichloropropene	2.3	Not Detected
Dibromomethane	2.7	Not Detected
Methyl Methacrylate	8.8	Not Detected
2-Nitropropane	5.3	Not Detected
Chloroacetonitrile	3.5	Not Detected
4-Methyl 2-Pentanone(MIBK)	4.2	Not Detected
Ethyl Methacrylate	11.7	Not Detected
Dichloroacetone	4.5	Not Detected
1,3-Dichloropropane	3.7	Not Detected
Methyl Butyl Ketone	6.0	Not Detected
1,2-Dibromoethane	4.Û	Not Detected
1,1,1,2-Tetrachloroethene	4.4	Not Detected
Styrene	2.7	Not Detected
Isopropyl Benzene	3.4	Not Detected
1,2,3-Trichloropropane	11.0	Not Detected
Bromobenzene	5.8	Not Detected
t-1,4-Dichloro-2-Butene	3.2	Not Detected
n-Propyl Benzene	3.5	Not Detected
2-Chloro Toluene	4.5	Not Detected
1,3,5-Trimethyl Benzene	3.1	Not Detected
4-Chloro Toluene	4.4	Not Detected
t-Butyl Benzene	3.7	Not Detected
1,2,4-Trimethyl Benzene	4.4	Not Detected
Pentachloroethane	5.1	Not Detected
sec-Butyl Benzene	3.8	Not Detected
p-Isopropyl Toluene	3.2	Not Detected
n-Butyl Benzene	3.6	Not Detected
Hexachloroethane	3.7	Not Detected
1,2-Dibromo-3-Chloro Propane	4.9	Not Detected
Nitrobenzene	5.1	Not Detected
1,2,4-Trichlorobenzene	6.6	Not Detected
Hexachlorobutadiene	5.1	Not Detected
Naphthalene	8.0	Not Detected
1,2,3-Trichloro Benzene	8.0	Not Detected

CITY OF KALAMAZOO DEPARTMENT OF PUBLIC UTILITIES CHAIN OF CUSTODY RECORD AND LAB ANALYSIS REPORT FORM

SAMPLERS THE REPORT OF ANALYSIS REPORT FORM

PURPOSE OF ANALYSIS

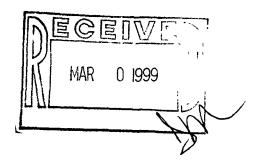
19688

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/	/	EPA-Bryant, M:11 Pond	APE 0439	9 7	Two-40mb One-40mL One-11	2/12/99	L	20 M		H	North Basin		lar dorles		} 8√) BY
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	NH ₃ -N	·		 	ZINC				METHO	OD 8260					1) 10	E/TIME
	TOTAL P			 	SILVER										DATE PARE	DATE
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	GREASE/			∦ —	BERYLLIUM			-	PCB'S	- TOTAL					8 03	∯ CE BY
	CHLORID			 	BARIUM								XS.		1 RELINGUISHED (Signature)	2 RELINQUISHED E (Signature)
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	zoo Michi	gan 49007		(Signat	lure) 30007	1./100	ww] G	mplianc	Monitoring	ЛІМЕ	TIME
	EM MBER	SAMPLEID	SAMPLI NUMBE		NUMBER & SIZE OF CONTAINER	D A T E	T 1 M E	С О М Р	G R A B		ATION, DESCRIPTION REMARKS	DATE	DATE
	1	EPA-Bligant Mill Pond	APE 048 99	? (One-1L	2/12/99	9:00 %	Z;	Н	Busin/ Co	clear Conv	B	≽
2) 	EPA-Bryant Mill Pond	APE 04399	7 0	One-1L	1/12/99	9:00m		Н	BasiN/	1 /Metals	RECEIVED (Signature)	RECEIVED I (Signature)
<u>3</u>			1		One-1C One-500ml						TPH	E REC	
4	/	V	<u>V</u>).me - 500ml		Ψ		Y	V /	1 CN-	E/TIME	E/TIME
												DATE/	DATE
						-						ED 8Y	ЕО ВҮ
	-											QUISH	QUISH ture)
	12 J. R.			_					1			3 RELINQUISHED ((Signature)	4 RELINQUIS (Signature)
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GENE	ERAL/CO	onventional Grab	RESULT		CE METALS BATCH BBF	RESU		ANIC C	ОМРО	UNDS RESULT		iii .	DATE
V	рН	7,70		V	CADMIUM	<1		voc s				-11	
	BOD			V	TOTAL CHROMIUM	< 2	0					2	<u> </u>
	CBOD	< 40 me) 	 	HEX CHROME	مميد							
V	COD	37 mg	<u>, </u>	$\ v \ $	COPPER	< 2		METHO				DEIV Pagu	CEIV
ر ار	TSS VSS	15 m	D	1	NICKEL	< 2			OD 602 OD 8015			RE(₩ Sign
/	NH, N	1 24 m	11.	1	ZINC	<4		 	OD 8260			2.15 PM	ME
	TOTAL P	G 10.	mail	1/	SILVER	<1 <1						12 7 6 E	TE/-
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	GREASE/				BERYLLIUM			PCB S	TOTAL) BY	, ΒΥ
	CHLORID	DE			BARIUM						S	1 RELINQUISHED (Signature) (Signature)	2 RELINQUISHED I (Signature)
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Form 1015 9 1 96

APE 04379



Roy F. Weston, Inc. Allied Paper Inc. Operable Unit 266 E. Alcott St. Kalamazoo, MI 49001 (616) 373-7008 (616) 373-7010 Fax

Fax

To: BOB	50'DAY	From:	TIONOTHY LA	PUDIZE
Fax: 33	4-8699	Pages:	10	
Phone: 33	3-8159	Date:	3/10/99	
Re: MONTH	4 REPORT	CC:	· '	
Urgent	For Review	Please Comment	Please Reply	Please Recycle
Comments				
	MIR. U DI	94:		

THANK YOU Tim LAQUENTE



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

-acility: **EPA-Allied Paper**

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due:

3-10-99

Reporting Period: 2-10-99 +4mm 3-10-99

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:

		Monthly Avg.	1.1_:A	5 14	
Pollutants	Daily Max.	Max,	<u>Unit</u>	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		υg/l		GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/l		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
рН	6.2-9.8		S.U.		GRAB

N/R indicates Not Required

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Flow Information:	Average Daily (GPD)	Maximum Daily (GPD)
Date and Time of Sampling:	Composite:	
Grab:	Grab:	
Grab:		
Note: If more than one batch is of the samples prior to analysis	discharged on the day of sampling, ple	ase sample each batch and compos

ite the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Title:

Scene Coordinator

Monthly Total flow 883,42282 gallons

KAR Project No.: 990581

990581 02/12/99

Client: Roy F. Weston, Inc.

Date Reported:

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-011"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/11/99 Sample Time: 0930 Date Received: 2/11/99
Sample Type: squeous

KAR Sample No.: 990581-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep Hg	Completed		EPA 245.2	2/11/59	PIAL	
Prep metals	Completed		EPA 30xx, 200 x	2/11/59	PML	
Csdmium total	<\$	ug/L	EPA 200 7	2/12/56	PML	
Chromium, total	<10	LOL	EPA 200 7	2/12/95	FML	
Copper total	50	ugh	EPA 200 7	2/12/55	PML	
Leed, total, by ICP	<50	lug/L	EPA 200 7	2/12/95	PML	
Mercury, total low level	<0.2	UCAL	EPA 245 2	2/11/55	PML	
Nickel, total	<20	UQL	EPA 200 7	2/12/95	PML	
Zinc total	20	ugh	EPA 200 7	2/12/99	PML	
Cyenide, total	<5	vc/L	EPA 335 2	2/11/99	VAS	
Gravimetric TPH (SST-HEM)	<5	mg/L	EPA 1664	2/11/85	RJC	
•	83	עצ	EPA 150 1	2/11/99	PCH	
.nDNR Scar. 2	See below		EPA 8021	2/11/59	LAE	
Prep. VOA	Completed		EPA 5030	2/11/95	LAE	
Benzene	< 1	Jal	EPA 8021	2/11/95	LAE	
Ethylbenzene	<1	ug/L	EPA 802"	2/11/58	LAE	<u> </u>
M-and/or p-xylene	<1	ual	EPA 8021	2/11/53	LAE	
Q-Xylene	<1	USA	EPA 8021	2/11/95	LAE	
Tcivene	<1	Jal	EPA 8021	2/11/99	LAE	
Preo ECD	Completed		EPA 3510	2/11/99	SAS	
PCB Arcelar 1916	<0.05	Jan.	EPA 8082	2/11/68	MSZ	
PC8 Arcelor 1221	<0.05	Nal	EPA 8082	2/11/59	MSZ	
PC8 Araclar 1232	<0.95	Ua∕L	EPA 8082	2/11/99	MSZ	
PCB Arcelor 1242	<0.05	ug1	EPA 8082	2/11/99	MSZ	
PCB Arcelor 1248	<0.05	ugh	EPA 8082	2/11/55	MS2	
PCB Aroclar 1254	<c.75< td=""><td>ug.1</td><td>EPA 8082</td><td>2/11/55</td><td>MSZ</td><td></td></c.75<>	ug.1	EPA 8082	2/11/55	MSZ	
PCB Arcelor 1250	<0.05	ug/L	EPA 8082	2/11/95	MSZ	
PC8 Arcciors, total	NA		EPA 8082	2/11/99	MSZ	

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KARLaboratories, Inc.

(616) 381-8666

Page 2

Tank#2 125,379 76901 Vischarge Colk 2112/99

actual discharge : 108,086 gul

KAR Project No.: 990620

Client: Roy F. Weston, Inc.

Date Reported:

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-012"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/15/99 Sample Time: 0918

Date Received: 2/15/99

2900005 Sample Type: KAR Sample No.: 990620-01

Сопупенс Test Result Units of Measure Method Analyzed Analyst 2/15/98 PML Completed EPA 245.2 Prop, Hg 2/15/99 PNL EPA 30xx 200 x Preo metals Completed Cadmium total ug/L EPA 200.7 2/16.85 **<**5 <10 ual EPA 200.7 2/16/59 PML Chromium, lotal Copper total 40 / ug/L EPA 200.7 2/16/99 PML $\overline{}$ Lead total by ICP <50 NOT EPA 200.7 2/16/59 PILL 40.2 2/16/99 PML Morcury, total low level EPA 245.2 ug/L <20 EPA 200.7 2/18/99 PML Nickel, total ugil 60 ugiL EPA 200.7 2/16/98 PML Zinc, total Cyenide, total <5 ug/L EPA 335.2 215/98 VAS Graymetric TPH (SGT-HEM) <5 EP4 1664 2/15/99 RJC mal PH EPA 150 1 2/15/99 80 <u>5,U</u> POH MDNR SCER 2 EPA 8021 2/15/99 See below LAE Prep. VOA Completed EPA 5030 2/15/99 Serzene **<**1 Ug/L EPA 8021 2/15/55 LAE Ethylberizene <1 EP4 8021 2/15/98 LAE UGA EPA 8021 LAE <1 2/15/90 M-end/or p-xylene UQL EPA 8021 < 1 2/15/89 LAE Q-Xylene <u>ua/L</u> 2/15/99 <1 EPA 8021 Taluens υσA LAE Prep ECD Completed EPA 3535 2/15/99 SAS PCB Arodor 1016 <0 05 Ug/L EPA 8082 2/16/98 MSZ PCB Aroclar 1221 <0.05 UQL EPA 8082 2/16/59 MSZ PCB Aroclar 1232 < 0.05 UgiL EPA 8082 2/16/99 MSZ PCB Arcclar 1242 <0.95 EPA 8082 2/16/99 MSZ υgΛ, PCB Araclas 1248 2/16/99 MSZ <0.05 ug.L **EPA 8082** 2/16/99 PCB Aroclar 1254 <C.05 ug/L EPA 8082 MSZ <0.05 EPA 8082 2/16/99 MSZ PCB Aroclor 1260 ug/L PCB Aroclars, total NA EPA 8082 2/16/95 MSZ

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KARLaboratories, Inc. (616) 381-9666

Page 2

95,115.68 gais

KAR Project No.: 990630

Date Reported:

02/17/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-013"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/16/99 Sample Time: 0900

Date Received: 2/16/99 Sample Type:

aqueous KAR Sample No.: 990630-01

, Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hg	Completed		EPA 245 2	02/16/99	DBL	
Prep. metals	Completed		EPA 30xx,200.x	02/16/99	MTM	
Cadmium, total	<5	ug/i_	EPA 200.7	02/16/99	MTM	
Chromium, total	<10	ug/L	EPA 200.7	02/16/99	MTM	
Copper. total	110	ug/L	EPA 200.7	02/16/99	MTM	
Lead, total, by ICP	<50	ug/L	EPA 200.7	02/16/99	MTM	
Mercury, total, low level	<02	ug/L	EPA 245.2	02/17/99	PML	
Nickel, total	<20	ug/L	EPA 200.7	02/16/99	MTM	
Zinc, total	<10	ug/L	EPA 200.7	02/16/99	MTM	
Cyanide, total	<5	ug/L	EPA 335.2	02/16/99	VA\$	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1864	02/16/99	RJC	
PH	7.9	S.U.	EPA 150.1	02/16/99	POH	
MDNR Scan 2	See below		EPA 8021	02/16/99	LAE	
Prep, VOA	Completed		EPA 5030	02/16/99	LAE	
Benzene	<1	υg/L	EPA 8021	02/16/99	LAE	
Ethylbenzene	<1	ug/L	EPA 8021	02/16/99	LAE	
M-and/or p-xylene	<1	ug/L	EPA 8021	02/16/99	LAE	
O-Xyiene	<1	ug/L	EPA 8021	02/16/99	LAE	
Toluene	<1	ug/L	EPA 8021	02/16/99	LAE	
Prep. ECD	Completed		EPA 3510	02/17/99	MJY	····
PCB Aroclar 1016	<0.05	uq/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1221	< 0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1232	< 0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Arodor 1242	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1260	< 0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Arociors, total	NA	1	EPA 8082	02/16/99	MSZ	

[ANZ # 1 = 45" = 129703.20GAS = 43'= 123,938.61 gAG 2/17/99

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KARLaboratories, Inc.

(616) 381-9666

KAR Project No.: 990696

02/19/99 Date Reported:

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-014"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/18/1999

Sample Time: 1145

Date Received:

2/18/1999

Sample Type: KAR Sample No.: 990696-01

aqueous

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3510	02/18/99	MJY	
PCB Arocior 1016	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Arocior 1221	< 0.05	υg/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1232	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Arodor 1254	< 0.05	ug/L	EPA 8082	02/18/99	MSZ	***************************************
PCB Aroclor 1260	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Arociors, total	NA NA		EPA 8082	02/18/99	MSZ	

2/19/99

MODULAN PANE #2

DISCHAMOSO TO COO OF KALAMAROK
92,233.38 GALLON

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KARLaboratories, Inc.

KAR Project No.: 990717

Date Reported: 02/23/99

Client: Roy F. Weston, Inc.

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-015"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date : 2/22/1999

Sample Time: 1020

Date Received: 2/22/1999 Sample Type: aqueous

KAR Sample No.: 990717-01

' Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hg	Completed		EPA 245.2	02/22/98	DBL	
Prep, metals	Completed		EPA 30xx.200.x	02/22/99	PML	
Cadmium, total	<5	ug/L	EPA 200.7	02/22/99	MTM	
Chromium, total	<10	ug/L	EPA 200.7	02/22/99	MTM	
Copper, total	50	ug/L	EPA 200.7	02/22/99	MTM	
Lead, total, by ICP	<50	ug/L	EPA 200.7	02/22/99	MTM	
Mercury, total, low level	<0.2	ug/L	EPA 245.2	02/23/99	MTM	
Nickel, total	<20	ug/L	EPA 200.7	02/22/99	MTM	
Zinc, total	70	ug/L	EPA 200.7	02/22/99	MTM	
Cyanide, total	<5	UQ/L	EPA 335.2	02/22/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	02/22/99	DRA	
PH	7.6	S.U.	EPA 150.1	02/22/99	POH	·····
MDNR Scan 2	See below		EPA 624	02/22/99	JAR	
Prep, VOA	Completed		EPA 624	02/22/99	JAR	
Benzene	<1	ug/L	EPA 624	02/22/99	JAR	
Ethylbenzene	<1	ug/L	EPA 624	02/22/99	JAR	
M-and/or p-xylene	<1	ug/L	EPA 624	02/22/99	JAR	
O-Xylene	<1	ug/L	EPA 624	02/22/99	JAR	
Toluene	<1	ug/L	EPA 624	02/22/99	JAR	
Prep, ECD	Completed		EPA 3510	02/22/99	ŞAS	
PCB Aroclor 1016	<0.05	ug/L	EPA 8082	02/23/99	MSZ	· · · · · · · · · · · · · · · · · · ·
PCB Aroclor 1221	<0.05	ug/L	EPA 8082	02/23/99	MSZ	· · · · · · · · · · · · · · · · · · ·
PCB Arodor 1232	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1248	< 0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1260	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclors, total	NA		EPA 8082	02/23/99	MSZ	

TANK # 1 DISCHANONED TO CITY OF KARAMARA 138,350.00 GALLONS 2/22/99

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FROM:

PHONE NO. :

Mar. 10 1999 01:03PM P8

LABORATORY REPORT

KAR Project No.: 990807

Client: Roy F. Weston, Inc.

Date Reported:

02/26/99

Project Description: Analysis of two aqueous samples from Kalamazoo River Superfund.

Sample ID: "WW-EFF-016"

Sampled By: OGN of Roy F. Weston

Sample Date: 2/25/99 Sample Time: 1115

Date Received: 2/25/99

Sample Type:

equeous

KAR Sample No.: 990807-02

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EP4 3510	2/25/89	MJY	
PCB Aroclar 1015	<0.05	ug/L	EPA 8082	2/28/89	MSZ	
PCB Aroclar 1221	<0.05	ug/L	EPA 8082	2/26/99	MSZ	
PCB Aroclar 1232	<0.05	ugs	EPA 8082	2/26/99	MSZ	
PCB Aroslor 1242	<0.05	uq1	EPA 8052	2/26/99	MSZ	
PCB Aroclar 1248	<0.05	ua/L	EPA 8082	2/25/99	MSZ	
PCB Aroclar 1254	<0.05	ug1	EPA 8082	2/26/99	MSZ	
PCB Aroclar 1260	<0.05	ugh	EPA 8082	2/28/99	MSZ	
PCB Arcelors, total	NA		EPA 8082	2/26/99	MSZ	

TANK#2 DISCHAMADO TO CITY OF KALAMAZDO 3/1/99 100,880.27 GALLONS

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Page 3

KAR Project No.: 990862

Date Reported: 03/03/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID : "WW-EFF-017"

Client: Roy F. Weston, Inc.

Sampled By: GN of Roy F. Weston

Sample Date: 3/1/99 Sample Time: 1630 Date Received: 3/2/99 Sample Type: aqueous

KAR Sample No.: 990852-01

Units of Measure Method Analyzed Analyst Comments Result Test Completed EPA 245.2 3/3/99 DBL Prep Hc EPA 30xx 200 x 3/2/99 Completed Prep, metals Cedmium, total <5 EPA 200 7 3/3/09 PML ual Chromium, lotal <10 EPA 200 7 3/3/99 PML ug/L 3/3/00 PMI EPA 200 7 Copper total 20 ugil Lead, total, by ICP EPA 200 7 3/3/88 PML <50 UQ/L EPA 245 2 3/3/99 DBL Mercury, total, low level <0 2 Ug/L Nickel, total <20 EPA 200.7 3/3/99 PML ug/1 Zinc, total <10 ug/L EPA 200 7 3/3/99 PML Cyanide, total <5 EPA 335 2 3/3/99 VAS ug/L Gravimetic TPH (SGT-HEM) EPA 1664 <5 mg/L3/2/99 **RJC** Sample received past holding time 77 S.U EPA 150 1 3/2/99 JMS result is approximate MDNR Scan 2 See below EPA 8021 3/2/98 LAE Prop. VOA Completed EPA 5030 3/2/99 LAE Benzene Ug/L EPA 8021 3/2/99 LAE EPA 8021 3/2/99 Ethylbenzene <1 JQ/L LAE 1/2/85 <1 EPA 8021 LAE M-and/or p-xylene UZL Q-Xylene <1 EPA 8021 3/2/99 LAE ual Taluene <1 ug/L EPA 8021 3/2/88 LAE Prep. ECD EPA 3510 Completed 3288 SAS PCB Arocker 1018 < 0.05 EPA 8082 ual 3/3/99 MSZ PCB Aroclar 1221 <0.08 EPA 8082 3/3/99 ugl <0.05 PCB Aroclar 1232 MSZ UQ/L EPA 6082 3/3/99 PCB Aroclor 1242 <0.05 EPA 8082 MSZ ug/L 3/3/99 PCB Aroclar 1248 <0.05 UOL EPA 8082 2/2/99 MSZ PCB Aroclor 1254 < 0.05 EPA 8082 MSZ ug/L 3/3/55 PCB Arociar 1260 < 0.05 Ug/L **EPA 8082** 3/3/99 MSZ PCB Araclars, total NA EPA 8082 3/3/99 MSZ

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KAR Laboratories, Inc.

Page 2

Modular Tang # 1 Dischanges To City of KALAMAREN 109,527.15 GALLONS 3/3/99

KAR Project No.: 990910

Client: Roy F. Weston, Inc. Date Reported: 03/04/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-18"

Sampled By: OGN of Roy F. Weston Sample Date: 3/3/99

Sample Time: 1330

Date Received: 3/3/99
Sample Type: aqueous
KAR Sample No.: 990910-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3510	3/3/99	SAS	
PCB Aroclor 1016	<0.05	ugil	EPA 8082	3/4/99	MSZ	
PCB Aroclar 1221	<0.05	ugl	EPA 8082	3/4/99	MSZ	
PCB Arocfor 1232	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PCB Aroclar 1242	<0.05	ugh	EPA 8082	3/4/99	MSZ	
PGB Aroclar 1248	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PCB Aradar 1254	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PCB Arockir 1260	<0.05	ug/L	EPA 8082	3/4/98	MSZ	
PCB Aroclors, total	NA		EPA 8082	3/4/99	MSZ	

MODULAR TANK #2 3/5/99 DISCHARGED TO CITY OF KALAMARIN 115, 291.78 GALLONS

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KAR Laboratories, Inc.

Page 2

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Roy F. Weston, Inc. Allied Paper Inc. Operable Unit 266 E. Alcott St. Kalamazoo, IVII 49001 (616) 373-7008 (616) 373-7010 Fax

Fax

To: BOB	, U'DAY	From:	LIDOTHY LA	founde
Fax: 331	7-8699	Pages:	10	
Phone: 33	7-8157	Date:	3/10/99	
Re: MONTAL	4 REPORT	CC:	· ·	
Urgent	For Review	Please Comment	Please Reply	Please Recycle
Comments	: MR. 0'DA	H:		
PER	ASE CONTAI LIAINING TO NITONING PLY	CLANIFICAT	616) 373 TION ON TA	7008 on 7009, E SEIF

THANK YOU TIM CAQUENTE



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

-acility: **EPA-Allied Paper**

77 North Jackson Blvd., SE-5J

Chicago IL 60604

<u>Due:</u>

3-10-99

Reporting Period: 2-10-99 + How 3-10-99

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:		Monthly Avg.			
Pollutants	Daily Max.	Max.	<u>Unit</u>	Results	Sample Type
BETX	15		mg/l		GRAB
CADMIUM	40		ug/l		GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		υg/l	·	GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/I		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
Н	6.2-9.8		ร.บ.		GRAB

N/R indicates Not Required

PLEASE ATTACH COPIES OF LABORATORY RESULTS

Flow Information:	_ Average Daily (GPD) Maximum Daily (GPI	D }
Date and Time of Sampling:	Composite:	
Grab:	Grab:	
Grab:		
Note: If more than one hatch is dis	charged on the day of sampling, please sample each batch an	rd comp

patch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

Title:

Scene Coordinator

Monthly Total flow 883,42282 gallons



KAR Project No.: 990581

02/12/99 Date Reported:

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-011"

Client: Roy F. Weston, Inc.

Sampled By: CGN of Roy F. Weston, Inc.

Sample Date: 2/11/99 Sample Time: 0930

Date Received: 2/11/99 Sample Type: sausous KAR Sample No.: 990581-01

Test	Result	Units of Measure	Method	Aralyzed	Analysz	Comments
Free Hg	Completed		EPA 245.2	2/11/55	PNL	
Preo metals	Completed		EPA 3011 200 x	2/11/59	PML	
Cedmum total	<5	val	EP4 200 7	27255	PML	
Chromium, fotal	<10	ug/L	EPA 200 7	2/2/95	FML	
Copper total	150	uqL	EPA 200 7	2/1288	PIAL	
Leed total by ICP	<50	l ug/L	EPA 200 7	21255	PML	
Mercury, total low level	<02	UCL	EPA 245 2	2/11/55	PVIL	
Nicket total	<20	עסת	EPA 200 7	2/12/95	PML	
Zinc btsl	20	val	EP4 200 7	21275	PML	
Cyerude, total	<5	ug/L	EPA 335 2	2/11/99	VAS	
Grewmetric TPH (SGT-HEIM)	<5	mg/L	EPA 1661	2/11/95	RJC	
•	83	עצ	EPA 150 1	2/11/99	PCH	
DNR Scar. 2	See below		EPA 8021	2/11/59	LAE	
Prep VOA	Completed		EPA 5030	2/11/55	LAE	
Eerzene	<1	υg/L	EPA 8021	2/11/95	LAE	
Eltyiberzene	<1	ug/L	EP4 802"	2/11/55	LAE	
M-cnd/or p-xylene	<1	val	EPA BCZ1	2/11/53	LAE	
O-Xylene	<1	אַפָּע	EPA 8021	2711,75	LAE	
Tcluere	< 5	Ugit	EPA 802*	2/11/99	LAE	
Pres ECD	Completes		EPA 3510	2/11/99	SAS	
PCB Arcolar 1016	<0.05	Jol	EP4 8082	2/11/651	WSZ	
PCS Arcelor 1221	<0.05	υα/L	EPA 8082	2/11/59	WSZ	
POS Araclar 1232	<0.95	Jor	EP4 8082	241,55	₩SZ	
PCB Arcclor 1242	<0.05	lugi	EPA 8082	271-195	MSZ	
PCB Arcelor 1248	<0.05	ug/L	EPA 8082	2/11/35	WSZ	
PCB Aroclar 1254	<c 75<="" td=""><td>Jg1.</td><td>EPA 8082</td><td>2/11/39</td><td>MSZ</td><td></td></c>	Jg1.	EPA 8082	2/11/39	MSZ	
PCS Areclar 1250	<0.55	ral	EP4 8082	2/11/85	YSZ	
PCB Arcelors, total	NA	T	EPA 8082	2/11/39	WSZ	

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Page 2

Tank#2 125,379 76981 Vischarge Colk 2112/99

actual de scharze : 108,086 gul

KAR Project No.: 990620

Date Reported:

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-012"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/15/99

Sample Time: 0915

Date Received: 2/15/99

Sample Type:

ZQUBĐUS

KAR Sample No.: 990620-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Consnents
Preo Hg	Completed		EPA 245.2	2/15/98	PWL	
Preo metals	Completed		EPA 30xx 200 x	2/15/99	PML	
Çədmum total	<5 /	ual	EPA 200 7	2/16.95	PML	
Chromium, total	<10	ugl	EPA 200 7	2/16/59	PML	
Copper total	40 -	Jan.	EPA 200 7	2/16/98	PML	
Leso total by ICP	<50	υgΛ	EPA 200 7	2/16/59	PML	
Marcury, total low level	40.2	ug/L	EPA 245 2	2/16/98	PML	
Nickel total	<20	val	EPA 200 7	2/18/39	PML	
Zine total	80	ugs	EPA 200.7	21 6.798	PML	
Cyenide total	<5 /	ugi	EPA 335 2	27.5/95	VAS	
Gravimento TPH (SGT-HEM)	<5 /	mc/L	EP4 1664	2/15/98	RJC	
P4	80 /	SU	EPA 150 1	27.5/99	POH	
MDNR Scen 2	See below		EPA 8021	2/15/90	LAE	
Prep VOA	Campleted		EPA 5030	2/15/99	LAE	
Benzene	<1 .	ugl	EPA 8021	2/15/99	LAE	
Ethylbenzene	<1	JOAL	EPA 8021	2/15/98	LAE	
M-and/or p-xylene	<1	vo1	EPA 8021	275/99	LAE	
0-Xviene	<1	UOL	EP4 8021	2/15/59	LAE	
Táluens	< 1	ug/L	EPA 8021	2/15/99	LAE	
Prep, EGD	Completed		EPA 3535	2/15/99	SAS	
PCB Aroclar 1016	<0.05	ug/L	EPA 8082	2/16/58	MSZ	
PCS Aroclor 1221	<0.05 -	υg/L	EPA 8082	27639	MSZ	
PCB Arcolor 1232	<0 25 ·	val	EPA 8082	2/16/55	MSZ	
PCB Arcelor 1242	<0.05	Jan.	EPA 8082	2/16/99	MSZ	
PCB Aroclar 1248	<0.05	ug.1	EPA 8082	2/16/99	WSZ	
PCB Aroclor 1254	<c 05<="" td=""><td>ugs</td><td>EPA 8082</td><td>2/16/59</td><td>NSZ</td><td></td></c>	ugs	EPA 8082	2/16/59	NSZ	
PCS Avoclor 1260	<0 05 ·	ug/L	EPA 8082	2/16/99	M.S.Z	
PCS Araciars, total	NA		EPA 8082	2/16/95	MSZ	

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Page 2

Tank # 2) ischarge Colk 2/16/99 ===

Achor Discharge = 33" 95,115.68 gals

KAR Project No.: 990630

Date Reported: 02/17/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-013"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/16/99 Sample Time: 0900 Date Received: 2/16/99
Sample Type: aqueous
KAR Sample No.: 990630-01

, Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hg	Completed		EPA 245 2	02/16/99	DBL	
Prep. metals	Completed		EPA 30xx, 200.x	02/16/99	MTM	
Cadmium, total	<5	ua/L	EPA 200.7	02/16/99	MTM	
Chromium, total	<10	ug/L	EPA 200.7	02/16/99	MTM	
Copper total	110	lug/L	EPA 200 7	02/16/99	MTM	
Lead, total, by ICP	<50	ual	EPA 200.7	02/16/99	MTM	
Mercury, total, low level	<02	ug/L	EPA 245.2	02/17/99	PML	
Nickel, total	<20	ua/L	EPA 200 7	02/16/99	MTM	
Zinc total	<10	uq/L	EPA 200 7	02/15/99	MTM	
Cyanide, total	<5	ual	EPA 335.2	02/16/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	lmg/L	EPA 1864	02/16/99	RJC	
PH	7.9	IS.U.	EPA 150.1	02/16/99	POH	
MDNR Scan 2	See below		EPA 8021	02/16/99	LAE	
Pren VOA	Completed		EPA 5030	02/16/991	LAE	
Benzene	<1	l ug/L	EPA 8021	02/16/99	LAE	
Ethylbenzene	<1	lua/L	EPA 8021	02/16/99	LAE	
M-and/or p-xylene	<1	lug/L	I EPA 8021	02/16/99	LAE	
O-Xyrene	<1	lug/L	EPA 8021	02/16/99	LAE	
Toluene	<1	ug/L	EPA 8021	02/16/991	LAE	
Prep. ECD	Completed		IEPA 3510	02/17/99	MJY	
PCB Aroclar 1016	<0.05	ua/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1221	<0.05	ua/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1232	<0.05	ug/L	EPA 8082	02/16/99	M.S.Z	
PCB Arodor 1242	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/16/99	M\$Z	
PCB Aroclor 1254	<0.05	ua/L	EPA 8082	02/16/991	MSZ	
PCB Aroclar 1260	<0.05	I ua/L	EPA 8082	02/16/99	MSZ I	
PCB Aroclors, total	NA		EPA 8082	02/16/99	MSZ	

| ANK # 1 = 45" = 129703.20GAS ACTUAL DISCHARGE = 43" = 123.938.619AS 2/17/99

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KAR Project No.: 990696

· Date Reported ; 02/19/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-014"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/18/1999 Sample Time: 1145

Date Received : 2/18/1999 Sample Type : aqueous KAR Sample No.: 990696-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3510	02/18/99	MJY	
PCB Aroclar 1016	< 0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1221	< 0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1232	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1242	< 0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Arodor 1254	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Araclor 1260	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Arociors, total	NA		EPA 8082	02/18/99	MSZ	

2/19/99

MODILIAN PANE #2

DISCHAMOLO TO CITY OF KALAMATOR

92,233.38 GALLON

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Client: Roy F. Weston, Inc.

KAR Project No.: 990717

Date Reported: 02/23/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-015"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/22/1999 Sample Time: 1020 Date Received: 2/22/1999
Sample Type: aqueous
KAR Sample No.: 990717-01

' Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hg	Completed		EPA 245 2	02/22/99	DBL	
Prep. metals	Completed		EPA 30xx 200.x	02/22/99	PML	
Cadmium, total	<5	ug/L	EPA 200 7	02/22/99	MTM	
Chromium, total	<10	ug/L	EPA 200.7	02/22/99	MTM	
Copper, total	50	ug/L	EPA 200 7	02/22/99	MTM	
Lead, total, by ICP	<50	ug/L	EPA 200.7	02/22/99	MTM	
Mercury, total, low level	<0.2	ug/L	EPA 245 2	02/23/99	MTM	
Nickel, total	<20	ug/L	EPA 200 7	02/22/99	MTM	
Zinc. total	170	ug/L	EPA 200.7	02/22/99	MTM	
Cyanide, total	<5	ua/L	EPA 335.2	02/22/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	02/22/99	DRA	
PH	7,6	S.U.	EPA 150 1	02/22/99	POH	
MDNR Scan 2	See below		EPA 624	02/22/99	JAR	
Prep, VOA	Completed		EPA 624	02/22/99	JAR	
Benzene	<1	lual	EPA 624	02/22/99	JAR	
Ethylbenzene	<1	ug/L	EPA 624	02/22/99	JAR	
M-and/or p-xylene	<1	ua/L	EPA 624	02/22/99	JAR	
O-Xylene	<1	l ua/L	EPA 624	02/22/99	JAR	
Toluene	<1	lug/L	IEPA 624	02/22/99	JAR	
Prep, ECD	I Completed		I EPA 3510	02/22/99	SAS	
PCB Aroclor 1016	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1221	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1232	<0.05	υg/L	EPA 8082	02/23/991	MSZ I	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	02/23/991	MSZ I	
PCB Arodor 1248	<0.05	l ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclar 1254	<0.05	lug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1260	<0.05	lug/L	I EPA 8082	02/23/99	MSZ	
PCB Aroclors total	NA		EPA 8082	02/23/99	MSZ	

128,350.00 GALLONS
2/22/99

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KAR Project No.: 990807

Client: Roy F. Weston, Inc. Date Reported: 02/26/99

Project Description: Analysis of two aqueous samples from Kalamazoo River Superfund.

Sample ID: "WW-EFF-016"

Sampled By: OGN of Roy F. Weston

Sample Date: 2/25/99

Sample Time: 1115

Date Received: 2/25/99
Sample Type: squeous

KAR Sample No.: 890807-02

Sample Time: 1775				10-11-05-11-01-0-0-0-0-0-0-0-0-0-0-0-0-0			
Test	Result	Units of Measure	Method	Analyzed	Analyst	Constitution	
Prep ECD	Completed		EPA 3510	2/25/89	MAY		
PCB Aroclar 1016	<0.05	uçA	EPA 8032	2/25/99	MSZ		
PCB Arociar 1221	<0.05	Jol	EPA 8082	2/26/95	MSZ		
PCS Aroclar 1232	<0.05	ual	EPA 8082	2/26/99	MSZ		
PCB Aroclor 1242	<0.05	uq1	EPA 8082	2/25/59	MSZ		
PCB Aroclor 1248	<0.05	ua/L	EPA 8082	2/26/99	MSZ		
PCB Aroclar 1254	<0.05	ugl	EPA 8082	2/26/99	M52		
PCB Arodor 1260	<0.05	ugl	E.PA 8082	2/28/99	MSZ		
PC5 Arcolors, total	NA		EPA 8082	2/26/99	MSZ		
	T						

TANZ#2
DISCHANGED TO CITY OF KAKAMAZED
3/1/99
100,880.27 GALLONS

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KARLaboratories, Inc.

KAR Project No.: 990862

Date Reported: 03/03/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-017"

Client: Roy F. Weston, Inc.

Sampled By: GN of Roy F. Weston

Sample Date: 3/1/99

Sample Time: 1630

Date Received: 3/2/99

Sample Type: aqueous

KAR Sample No.: 990862-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo Hg	Completed		EPA 245.2	3/3/99	DBL	
Prep metals	Completed		EPA 3011 2001	3/2/99	PML	
Cedmium total	<5	ug/L	EPA 200 7	33,88	PML	
Chromium, total	<10	ນວຸ/ເ	EPA 200 7	3/3/99	PML	
Copper total	20	ugh	EPA 200 7	3/3/59	PML	
Lead total, by ICP	<50	ug/L	EPA 200 7	3/3/99	PML	
Mercury total low level	<0.2	ugs	EP4 245 2	3/3/99	DBL	
Nickel, total	<20	ua1	EPA 200 7	3/3/99	PML	
Zine, total	<10	uar	EPA 200 7	3/3/98	PML	
Cysnide, total	<5	ug∕L	EPA 335 2	3/3/93	VAS	
Grevimetic TPH (SGT-HEM)	<5	mg/_	EPA 1664	3/2/99	RJC	
PH	77	S.U	EPA 150 1	3/2/99	JMS	Sample received past holding time result is approximate
MDNR Scan 2	See below		EPA 8021	3/2/98	LAE	
Free VOA	Completed		EPA 5030	32/59	LAE	
Benzene	<1	ug/L	EP4 8021	3/2/99	LAE	
Ethylbenzene	<1	ugl	EPA 8021	3/2/99	LAE	
M-end/or p-xylene	<1	ug/I	EPA 8021	3/2/95	LAE	
O-Xylene	<1	ugl	EPA 8021	3/2/99	LAE	
Tcluene	<1	ugl	EPA 8021	3/2/59	LAE	
Prep ECD	Completed		EPA 3510	3/2/88	SAS	
PCB Arccior 1018	<0.05	ual	EPA 8082	3/3/99	WSZ	
PCB Aroclar 1221	<0.05	ugl	EPA 8082	3/3/99	WSZ	
PCB Aroclar 1232	<0.05	navr	EPA 8082	3/3/98	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	3/3/99	MSZ	
PCB Arociar 1248	<0.05	ugs	EPA 8082	3/3/99	NSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	3/3/55	WSZ	
PCB Arociar 1260	<0.05	UgiL	EPA 8082	3/3/59	MSZ	
PCB Aroclors, total	NA		EPA 8082	3/3/99	MSZ	

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KAR Laboratories, Inc.

Page 2

MODULAR PARE # 1 DISCHARGED TO CITY OF KALAMAZON 109,527.15 GALLONS 3/3/99

KAR Project No.: 990910

Date Reported: 03/04/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-18"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date: 3/3/99 Sample Time: 1330 Date Received: 3/3/99
Sample Type: aqueous

KAR Sample No.: 990910-01

Sample Tille 1								
Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments		
Pres, ECD	Completed		EPA 3510	3/3/89	SAS			
PCB Aroclar 1016	<0.05	ugit	EPA 8082	3/4/99	MSZ			
PCB Arociar 1221	<0.05	ugl	EPA 8082	34/89	MSZ			
PCB Aroclor 1232	<0.05	UDL	EPA 8082	3/4/99	MSZ			
PCB Aroclar 1242	<0.05	ug/L	EPA 8082	3/4/99	MSZ			
PCB Aroclar 1248	<0.05	ugs	EPA 8082	3/4/99	MSZ			
PCB Aroclar 1254	<0.05	Ugl	EPA 8082	3/4/99	MSZ			
PCB Arocky 1260	<0.05	ug/L	EPA 8082	3/4/98	MSZ			
PCB Aroclors, total	NA		EPA 8082	3/4/59	MSZ			

MODELAR TANK #2 3/5/99 DISCHARGED TO CITY OF KAKAMARA 115, 291.73 GALLONS

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KAR Laboratories, Inc.

(816) 381-8666



Roy F. Weston, Inc. Allied Paper Inc. Operable Unit 266 E. Alcott St. Kalamazoo, MI 49001 (616) 373-7008 (616) 373-7010 Fax

Fax

TO: BOB O'DAY	From:	TIONOTHY LA	PUDIZE
Fax: 334-8699	Pages:		
Phone: 337-8157	Date:	3/10/99	
RE: MONTHLY REPORT	CC:		
Urgent For Review	Please Comment	Please Reply	Please Recycle
Comments: Ma. 0'Da	Y:		
PLEASE CONTAC PERTAINING TO MONITORING PLAT	CLANIFICAT	7616) 373-7 110~ ON THE	008 on 7009,

THANK YOU TIM CAQUENTE



KALAMAZOO WATER RECLAMATION PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

-acility:

EPA-Allied Paper

77 North Jackson Blvd., SE-5J

Chicago IL 60604

Due:

3-10-99

Reporting Period:

2-10-99 HAM 3-10-99

Sample Code: APE

Location: Three tanks next to pretreatment system.

Monitoring Requirements:		Monthly Avg.			
Pollutants	Daily Max.	Max.	<u>Unit</u>	Results	Sample Type
ветх	15		mg/l		GRAB
CADMIUM	40		ug/i		GRAB
COPPER	2230		ug/l		GRAB
CYANIDE	250		ug/l		GRAB
LEAD	110		ug/l		GRAB
MERCURY	Prohibited		ug/l		GRAB
NICKEL	1590		ug/i		GRAB
PCBs	Prohibited		ug/l		GRAB
TOTAL CHROMIUM	4670		ug/l		GRAB
TOTAL PETROLEUM HYDROCARBON	100		mg/l		GRAB
ZINC	5300		ug/l		GRAB
рН	6.2-9.8		S.U.		GRAB

N/R indicates Not Rec	PLEASE ATTACH	COPIES OF LABORATORY RESULTS
Flow Information:	Average Daily (GPD)	Maximum Daily (GPD)
Date and Time of Sampling:	Composite:	· · · · · · · · · · · · · · · · · · ·
Grab:	Grab:	
Grab:	Grab:	

Note: If more than one batch is discharged on the day of sampling, please sample each batch and composite the samples prior to analysis.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sample each batch for PCB's

Contact:

N/R indicates Not Required

Title:

Scene Coordinator

Monthly Total flow 883,422.82 gallons

KAR Project No.: 990581

Date Reported: 02/12/99

Client: Roy F. Weston, Inc.

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-011"

Sampled By: CGN of Roy F. Weston, Inc.

Sample Date : 2/11/99

Sample Time: 0930

Date Received: 2/11/99

Sample Type: *EQUOQUS* KAR Sample No.: 990581-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep Ha	Completed		EPA 245.2	2/11/59	PNL	
Prep metals	Completed		EPA 3011, 200 x	2/11/55	PML	
Cadmium total	<5	ual	EPA 200 7	27255	PML	
Chromium, lotel	<10	UQA	EPA 200 7	2/12/95	FML	
Copper tetal	50	uq1	EPA 200 7	27288	PML	
Leed, total, by ICP	<50	ugs	EPA 200 7	2/12/99	PML	
Mercury, total low level	<0.2	UCL	EPA 2452	2/11/55	PML	
Nickel, total	<20	ug/L	EPA 200 7	2/12/95	PML	······································
Zinc total	20	val	EPA 200 7	21255	PML	
Cyenide, total	<5	vc/L	EPA 3352	2/11/99	VAS	
Graymetric TPH (SST-HEM)	<5	mg/_	EPA 1664	2/11/95	RJC	
•	83	SU	EP4 150 1	2/11/99	PCH	
"DNR Scar, 2	See below		EPA 8021	2/11/59	LAE	
Prep. VOA	Completed		EPA 5030	2/11/55	LAE	···
Benze <i>n</i> e	<1	Jak	EPA 8021	2/11/99	LAE	
Ethylbenzene	<1	ug/L	EP4 802"	2/11/58	LAE	
M-and/or p-xylene	<1	ugs	EPA 8021	2/11/53	LAE	
0-Xylena	<1	UQIL	EPA 8021	2/11/95	LAE	
Tcluens	<7	ugi	EPA 8021	2/11/99	LAE	
Pres ECD	Completed		EPA 3510	2/11/99	SAS	
PCB Arcelar 1015	1<0.05	Jan	EPA 8082	2/11/651	MSZ	
PCS Arcelor 1221	<0.05	JOIL	EPA 8082	2/11/59	MSZ	
PC8 Aroclar 1232	<0.05	ugl	EPA 8082	2/11/55	MSZ	
PCB Arctior 1242	<0.05	ugi	EPA 8082	2/11/95	MSZ	
PCB Arcelor 1248	<0.05	lugh	EPA 8082	2/11/55	MS2	
PC3 Aroclar 1254	<c.75< td=""><td>JQ1_</td><td>EPA 8082</td><td>2/11/99</td><td>MSZ</td><td></td></c.75<>	JQ1_	EPA 8082	2/11/99	MSZ	
PCB Areclar 1250	<0.05	ugi	EPA 8082	271/85	YISZ	
PC8 Arcciors, total	NA		EPA 8082	2/11/99	MSZ	

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KARLaboraiories, Inc. (616) 381-8666

Page 2

Tank#2 125,379 716901 Vischarge Colk 2112/99

actual discharge : 108,086 gul

KAR Project No.: 990620

Date Reported:

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-012"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/15/99 Sample Time: 0918 Date Received: 2/15/99
Sample Type: aqueous

KAR Sample No.: 990620-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Preo, Hg	Completed		EPA 245.2	2/15/99	PML	
Preo metals	Completed		EPA 30XX 200 1	2/15/99	PNIL	
Cadmium total	<5 /	ugs	EPA 200 7	2/16.95	PML	
Ciromium, lotal	<10	ug/L	EPA 200 7	2/16/59	PML	
Copper total	40 /	Jg/L	EPA 200 7	2/16/98	PML	
Lead total, by ICP	<50	up/L	EPA 200 7	276/59	PM.	
Morcury, total low level	402 -	ug/L	EPA 245 2	2/16/99	PML	
Nickel total	<20	ual	EPA 200 7	2/18/99	PML	
Zinc, total	80	ug/L	EPA 200 7	21 6.98	PML	
Cyerude, total	<5 /	ug/L	EPA 335.2	2/15/98	VAS	
Gravimetric TPH (SGT-HEM)	<5 /	mç/L	EP4 1664	2/15/98	RJC	
PH	80 /	SU	EPA 150 1	2/15/99	POH	
MDNR Scen 2	See below		EPA 8021	2/15/08	LAE	
Prep. VOA	Campleted		EPA 5030	2/15/95	LAE	
Бег хепе	<1 ·	ugit	EPA 8021	2/15/99	LAE	
Ethylbenzene	<5	ugit	EP4 8021	2/15/98	LAE	
M-end/or p-xylene	<1	ug1	EPA 8021	275/90	LAE	
0-Xviene	<1	ual	EP4 8021	2/15/59	LAE	
Taluens	<1	ugh	EPA 8021	27579	LAE	
Prea ECD	Completed		EPA 3535	2/15/99	SAS	
°CB Arador 1016	<0.05	ug/L	EPA 8082	2/16/58	MSZ	
PÇB Aroclar 1221	<0.05 -	ug/L	EPA 8082	27659	MSZ	
PCB Arodor 1232	<0 25	ugil	EPA 8082	2/18/59	MSZ	
PCB Arcelor 1242	<0.95	ug/L	EPA 8082	2/16/99	MSZ	
PCB Arcelor 1248	<0.05	ug.1	EPA 8082	211 8/99	MSZ	
PCB Arcolor 1254	<c 05<="" td=""><td>ugl</td><td>EPA 8082</td><td>2/16/99</td><td>MSZ</td><td></td></c>	ugl	EPA 8082	2/16/99	MSZ	
PCB Aroclor 1280	<0.05	ug/L	EPA 8082	2/16/99	MSZ	
PCB Araciars, total	NA		EPA 8082	2/16/95	MSZ	

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KARLaboratories, Inc. . . . (\$15) 381-8666

Page 2

Tank # 2
1) ischarge Calk
2116199 ===

Actual Discharge = 33" 95,115.68 gals

KAR Project No.: 990630

Date Reported: 02/17/99

Client: Roy F. Weston, Inc.

Project Description : Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-013"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/16/99 Sample Time: 0900 Date Received: 2/16/99 Sample Type: aqueous

KAR Sample No.: 990630-01

, Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hg	Completed		EPA 245 2	02/16/99	DBL	
Prep. metals	Completed		EPA 30xx,200.x	02/16/99	MTM	
Cadmium, total	<5	Ug/L	EPA 200.7	02/16/99	MTM	
Chromium. total	<10	ug/L	EPA 200.7	02/16/99	MTM	
Copper, total	110	ug/L	EPA 200.7	02/16/99	MTM	
Lead, total, by ICP	<50	ug/L	EPA 200.7	02/16/99	MTM	
Mercury, total, low level	<02	ug/L	EPA 245.2	02/17/99	PML	
Nickel, total	<20	ug/L	EPA 200.7	02/16/99	MTM	
Zinc, total	<10	ug/L	EPA 200.7	02/16/99	MTM	
Cyanide, total	<5	ug/L	EPA 335.2	02/16/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	02/16/99	RJC	
PH	7.9	S.U.	EPA 150.1	02/16/99	PŌH	
MDNR Scan 2	See below		EPA 8021	02/16/99	LAE	
Prep. VOA	Completed		EPA 5030	02/16/99	LAE	
Benzene	<1	ug/L	EPA 8021	02/16/99	LAE	
Ethylbenzene	<1	ug/L	EPA 8021	02/15/99	LAE	
M-and/or p-xylene	<1	ug/L	EPA 8021	02/16/99	LAE	
O-Xylene	<1	ug/L	EPA 8021	02/16/99	LAE	
Toluene	<1	ug/L	EPA 8021	02/16/99	LAE	
Prep. ECD	Completed		EPA 3510	02/17/99	MJY	
PC8 Arociar 1016	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1221	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1232	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	02/16/99	MSZ	···
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclor 1260	<0.05	ug/L	EPA 8082	02/16/99	MSZ	
PCB Aroclors, total	NA	1	EPA 8082	02/16/99	MSZ	

| ANK # 1 = 45" = 129703.20gAS ACTUAL DISCHARGE = 43" = 123,938.61 gAS 2/17/99

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Page 2

KAR Project No.: 990696

Date Reported : 02/19/99

Client: Roy F. Weston, Inc.

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-014"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/18/1999 Sample Time: 1145

Date Received: 2/18/1999 Sample Type: aqueous KAR Sample No.: 990696-01

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3510	02/18/99	MJY	
PCB Aroclor 1016	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Arocior 1221	<0.05	υg/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1232	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1248	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1254	< 0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Aroclor 1260	<0.05	ug/L	EPA 8082	02/18/99	MSZ	
PCB Arociors, total	NA		EPA 8082	02/18/99	MSZ	

2/19/99 MODULAN PANK #2 DISCHAMAZO TO GOV OF KALAMAZOR 92,233.38 GALLON

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KARLaboratories, Inc.

KAR Project No.: 990717

Date Reported: 02/23/99

Client: Roy F. Weston, Inc.

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-015"

Sampled By: OGN of Roy F. Weston, Inc.

Sample Date: 2/22/1999 Sample Time: 1020 Date Received: 2/22/1999
Sample Type: aqueous
KAR Sample No.: 990717-01

' Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. Hg	Completed		EPA 245.2	02/22/99	DBL	
Prep, metals	Completed		EPA 30xx, 200.x	02/22/99	PML	
Cadmium, total	<5	ug/L	EPA 200.7	02/22/99	MTM	
Chromium, total	<10	ug/L	EPA 200.7	02/22/99	MTM	
Copper, total	50	ug/L	EPA 200.7	02/22/99	MTM	
Lead, total, by ICP	<50	ug/L	EPA 200.7	02/22/99	MTM	
Mercury, total, low level	<0.2	ug/L	EPA 245.2	02/23/99	MTM	
Nickel, total	<20	ug/L	EPA 200.7	02/22/99	MTM	
Zinc. total	70	ug/L	EPA 200.7	02/22/99	MTM	
Cyanide, total	<5	ua/L	EPA 335.2	02/22/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	02/22/99	DRA	
PH	7,6	S.U.	EPA 150.1	02/22/99	POH	
MDNR Scan 2	See below		EPA 624	02/22/99	JAR	
Prep, VOA	Completed		EPA 624	02/22/99	JAR	
Benzene	<1	ug/L	EPA 624	02/22/99	JAR	
Ethylbenzene	<1	ug/L	EPA 624	02/22/99	JAR	, , , , , , , , , , , , , , , , , , ,
M-and/or p-xylene	<1	ug/L	EPA 624	02/22/99	JAR	
O-Xylene	<1	ug/L	EPA 624	02/22/99	JAR	
Toluene	<1	ug/L	EPA 624	02/22/99	JAR	
Prep, ECD	Completed		EPA 3510	02/22/99	SAS	
PCB Aroclor 1016	< 0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1221	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Arocior 1232	< 0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Arador 1248	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1254	<0.05	UO/L	EPA 8082	02/23/99	MSZ	
PCB Aroclor 1260	<0.05	ug/L	EPA 8082	02/23/99	MSZ	
PCB Aroclors, total	NA	T	EPA 8082	02/23/99	MSZ	

128,350.00 GALLONS
2/22/99

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KAR Project No.: 990807

Date Reported: 02/26/99

Project Description: Analysis of two aqueous samples from Kalamazoo River Superfund.

Sample ID: "WW-EFF-016"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date: 2/25/99

Date Received : 2/25/99 Sample Type: **equeous**

KAR Sample No.: 990807-02 Sample Time: 1115

Test	Result	Units of Measure	Method	Analyzed	Analyst	Convients
Prep. ECD	Completed		EPA 3510	2/25/99	MAY	
PCB Aroclar 1018	<0.05	uc/L	EPA 8032	2/28/89	MSZ	
PCB Aroclar 1221	<0.05	JOL	EPA 8082	2/26/99	MSZ	
PCS Arocker 1232	<0.05	ug/L	EPA 8082	2/25/55	MSZ	
PCB Aroclar 1242	<0.05	uq1_	EPA 8082	2/28/99	MSZ	
PCB Aroclor 1248	<0.05	uol	EPA 8082	2/26/99	MSZ	
PCB Aroclar 1254	<0.05	ug L	EPA 8082	2/28/99	MSZ	
PCB Aroclar 1260	<0.05	ug/L	EPA 8082	2/28/99	MSZ	
PCS Arcciors, total	NA		EPA 8082	226/99	MSZ	

TANK#2 DISCHARGED TO CITY OF KALAMAZOO
3/1/99

100,880.27 GALLONS

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KARLaboratories, Inc.

KAR Project No.:

990862

Client: Roy F. Weston, Inc.

Date Reported:

03/03/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: <u>"WW-EFF-017"</u>

Sampled By: GN of Roy F. Weston

Sample Date: 3/1/99

Date Received: 3/2/99

Sample Type:

aqueous

Sample Time: 1630		KAR Sample No.: 990862-01				
Tost	Result	Units of Measure	Method	Analyzed	Analyst	Converts
Prep, Hg	Completed		EPA 245.2	3/3/99	DBL	
Prep, metals	Completed		EPA 30xx 200 x	3/2/99	PML	
Cadmium total	<5	ug/L	EPA 200 7	3/3/89	PML	
Chromium, lotal	<10	nat	EPA 200 7	3/3/99	PML	
Copper total	20	ugs	EPA 200 7	3/3/99	PML	
Lead, total, by ICP	<50	Ug/L	EPA 200 7	3/3/99	PML	
Mercury, total, low level	<0.2	ug/L	EPA 245 2	3/3/99	DBL	
Nickel, total	<20	ug.1	EPA 200 7	3/3/99	PML	
Zino, total	<10	ug/L	EPA 200 7	3/3/98	PML	
Cyanide, total	<5	ug/L	EPA 335 2	3/3/99	VAS	
Gravimetric TPH (SGT-HEM)	<5	mg/L	EPA 1664	3/2/99	RJC	
PH	7.7	s.u	EPA 150 1	3/2/99	JMS	Sample received past holding time result is approximate
MDNR Scan 2	See below		EPA 8021	3/2/98	LAE	
Prep. VOA	Completed		EPA 5030	3/2/99	LAE	
Berzene	<1	υg/L	EPA 8021	3/2/99	LAE	
Ethylbenzone	<1	ugl	EPA 8021	3/2/99	LAE	
M-and/or p-xylene	<1	USIL	EPA 8021	3/2/95	LAE	
Q-Xylene	<1	ugl	EPA 8021	3/2/99	LAE	
Toluene	<1	ug/L	EPA 8021	3/2/59	LAE	
Prep, ECD	Completed		EPA 3510	3/2/88	SAS	
PCB Aroclar 1018	<0.05	Ual	EPA 8082	3/3/99	MSZ	
PCB Aroclar 1221	<0.05	ug/L	EPA 8082	3/3/55	MSZ	
PCB Araclar 1232	<0.05	ug/L	EPA 8082	3/3/99	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	3/3/99	MSZ	
PCB Arocior 1248	<0.05	ugil	EPA 8082	3/3/99	MSZ	
PCB Aroclor 1254	<0.05	ug/L	EPA 8082	3/3/99	MSZ	
PCB Aroclor 1260	<0.05	Ug/L	EPA 8082	3/3/59	MSZ	
PCB Aroclors, total	NA		EPA 8082	3/3/95	MSZ	* * * * * * * * * * * * * * * * * * * *

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Page 2

MODULAN TANK # 1 DISCHANGED TO CITY OF KARAMATERI 109,527.15 GALLONS 3/3/99

KAR Project No.: 990910

Date Reported: 03/04/99

Project Description: Analysis of one aqueous sample from Kalamazoo River Superfund.

Sample ID: "WW-EFF-18"

Client: Roy F. Weston, Inc.

Sampled By: OGN of Roy F. Weston

Sample Date: 3/3/99

Sample Time: 1330

Date Received: 3/3/99

Sample Type:

Bansons

KAR Sample No.: 990910-01

Test	Result	Units of Measure	Mestred	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3510	3/3/99	SAS	
PCB Aroclar 1016	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PCB Aroclar 1221	<0.05	ugl	EPA 8082	3/4/99	MSZ	
PCB Arccfor 1232	<0.05	val	EPA 8082	3/4/99	MSZ	
PCB Aroclor 1242	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PGB Arocior 1248	<0.05	ugs	EPA 8082	3/4/99	MSZ	
PGB Aroclar 1254	<0.05	ugs	EPA 8082	3/4/99	MSZ	
PCB Arocker 1260	<0.05	ug/L	EPA 8082	3/4/99	MSZ	
PCB Arociors, total	NA		EPA 8082	3/4/99	MSZ	

MODICAR TANK #2 3/5/99 DISCHARGED TO CITY OF KAKAMAD 115,291.78 GALLONS

This report may any be reproduced in full and not without the written consent of Roy F. Weston, Inc.

KAR Laboratories, Inc.

Millennium Holdings Inc., c/o SCM PCB's Discharge Summary

Positive PCB's Hits: 3 / 176

August 23, 1992	0 11 ug/l	1242 Aroclor
December 23, 1992	0 14 ug/l	1242 Aroclor
February 24, 1993	0 18 ug/l	1248 Aroclor

Summary

The Kalamazoo Water Reclamation Plant started to receive wastewater from the Allied Lagoon Site (Remediation Project) on January 8, 1992. Since this project has started, three positive PCB's hits have been recorded in our file. The first hit was on August 23, 1992 which Limno-Tech responded with the letter dated September 22, 1992. The second hit was December 23, 1992 which Limno-Tech responded to with the letter dated January 21, 1993. The third hit was February 24, 1993 which Limno-Tech responded to with the letter dated March 10, 1993. The Kalamazoo Water Reclamation Plant responded to the three violations with a letter dated March 11, 1993 in which the City of Kalamazoo suspended the permission to discharge to the sanitary sewer, Signed by Ken Collard (Director of Public Services). In a letter dated April 27, 1993, Limno-Tech presented modifications to the discharge procedures that would ensure compliance with the PCB's limitation before discharge to the sanitary sewer. The City responded with a May 3, 1993 letter granting conditional approval to resume discharge. These discharge procedures are still active and no PCB's hits have been detected since they have been installed.

Attachments General correspondence and monthly flow report

<u>Date</u>	General Description of Correspondence
01/10/92	First Status Report - initial discharge
09/10/92	August 1992 Monthly Flow Report
09/22/92	Limno-Tech letter explaining follow-up actions to 8/23/92 violation
10/16/92	Limno-Tech follow-up letter to 9/22/92
10/17/92	September 1992 Monthly Flow Report
11/09/92	October 1992 Monthly Flow Report
11/17/92	City letter in response to 11/9/92 Limno-Tech letter
01/11/93	December 1992 Monthly Flow Report
01/21/93	Limno-Tech letter explaining follow-up actions to 12/23/92 violation plus Self-
	monitoring report for the period of 7/1/92 to 12/31/92
03/10/93	February 1993 Monthly Flow Report including follow-up steps to 2/24/93
	violation
03/11/93	City letter suspending discharge privileges
04/27/93	Limno-Tech letter explaining modification to discharge procedures
05/03/93	City letter granting conditional approval

Attachments Control Documents

<u>Date</u>	General Description of Correspondence
1) 09/13/1991	Administrative Order to H M Holdings
2) 11/30/1992	Administrative Order to H M Holdings
3) 03/01/1994	Individual Control Document to H M Holdings
4) 12/09/1996	Reissued Individual Control Document to Millennium Holdings



January 10, 1992

Mr. Bruce E. Merchant Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, MI 49007-2565

RE: Status Report for the Allied HRDL Water Management Plan

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., LTI submits this status report to inform you of the current status of the water management plan for the historical residuals dewatering lagoons (HRDLs). During the month of December, 1991 no water from the Allied site was discharged to the City sanitary sewer.

The Administrative Order requires monthly and semi-annual reports for the discharge to the sanitary sewer, beginning in October 1991. However, no water was discharged over the period of July 1, 1991 thru December 31, 1991. This letter is therefore intended to fulfill the 1991 semi-annual reporting requirement for July thru December as well as the monthly reporting requirement for December.

The direct discharge system installation was completed on January 8, 1992 and we began to discharge treated water to the City sewer on that date. We will collect a complete set of "semi-annual effluent samples" next week and the results will be reported with our next status report (if available). The plant is presently discharging at a rate of approximately 80 gpm for 8 hours per day. We plan to continue this discharge on an as needed basis. We will send the first formal monthly report to you by February 10, 1992.

Should you have any questions regarding this letter or the status of the management plan, please don't hesitate to call me.

Sincerely,

Gregory W. Peterson Project Manager

GWP/act

cc: Jon F. DeWitt



September 10, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site. Monthly Self-

Monitoring Report-August 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for August, 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator.

Allied pumped, treated, and discharged a total volume of 52,000 gallons of water in August. The daily pumping records are provided in the enclosed summary. Effluent samples were collected on August 23, 1992, and sent to Kar Laboratories, Inc. for analysis of PCBs. The analytical results are not yet available, but will be included with the next reports.

Should you have any questions regarding this report, please call me.

Sincerely.

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/smv

Enclosures

cc: Tim Meulenberg
Jon F. DeWitt

Jim Werling

HM HOLDINGS/ALLIED PAPER, INC. HRDI. AND DECANT LAGOON STORMWATER MANAGEMENT PLAN Monthly Sampling and Maintenance Log

Month August

Year 1992

	Start	End	Daily	Pump	GAC	GAC	Requisite	Operational
Day	Volume	Volume	Volume	Maintenance	Backwash	Changeout	Sampling	Sampling
1	4900,000	1,900,000	0					
2	1,900,000	1,900,000	0					
_ 3	1,900,000	1,900,000	0					
4	1,900,000	1,900,000	0					
5	1,900,000	1,900,000						
6	1,900,000	1,900,000						
7	1,900,000	1,900,000	<u> </u>	<u> </u>				
8	1,900,000	1,900,000	0					
9	1,900,000	1,900,000	0					
10	1,900,000	1,900,000	0					
11	1,900,000	1,900,000	0					
12	1,900,000	4,900,000						
13	1,900,000	1,900,000	0					
14	1,900,000	1,900,000	0					·
15		1,900,000	0					
16		1,900,000	0					
17	1,900,000	1,900,000	0					
18	4900,000	1,900,000	0	<u></u>				
19		1,900,000		oilchange				
20	1,900,000	1,903,000	3,000	0				
21		1,906,000	3,600		yes			
22	1,906,000		<u> </u>					
23		1,910,000	4,000				yes.	
24		1,910,000	0		-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,	
25		1,922,000	12,000					
26	1,927,000	1,932,000	10,000	:				
27	1,932,000	1,937,000	5,000					
28	1,937,000		15,000					
29	1,952,000		0					
30	1,952,000		0					
31	1,952,000	1,952,00						

	Pumping	Volume	Volume	Monthly	Avg. Gallons
	Days	Start	End	w/ Total	Per Day
MONTHLY TOTALS	7	1,900,000	1,952,000	57,000	7,500.

HM HOLDINGS/ALLIED PAPER, INC. HRDL AND DECANT LAGOON STORMWATER MANAGEMENT PLAN Monthly Sampling and Maintenance Log

Month SEPTEMBER

Year 1997

	Start	End	Daily	Pump	GAC	GAC	Requisite	Operational
Day	Volume	Volume	Volume	Maintenance	Backwash	Changeout	Sampling	Sampling
1	1,952,000	1,976,000	24,000					
2	1,976,000	4997,000	16,000	oilchange				
3	1,992,000	1,997,000	0					
4	1,992,000	1,992,000	0					
5	1,992,000	1,997,000	<u> </u>					
6	1,992,000	1,992,000	0					
7	1,992,000	1,992,000						
8		2,018,000	26,000					
9		2,018,000	0					
10	2,018,000	2,018,000	0					
11	2,018,000	3,018,000	0					
12	2,018,000	2,018,000						
13	2,018,000	2,018,000	0					
	2,018,000		Ø					
	2,018,000		<u>o</u>					
16		2,018,000	0				,	
17	2,018,000	2,018,000	0					
18	2,018,000	2,018,000	O Recycle				Yes	
19		2,018,000		Pump Service				
20		2,018,000	0					
21		2,018,000	0				····	
22		2,018,000	0					
23	3,018,000	2,018,000	0					
24	2,018,000		0					
25		2,018,000	0					
26	2,018,000	2,018,000	0					
27	2,018,000	2,018,000	0					
	2,018,000	2,018,000	0					• • • • • • • • • • • • • • • • • • •
29	2,018,000	2,018,000	0					
	2,018,000	2,018,000	0					
31								

	Pumping	Volume	Vokame	Monthly	Avg. Gallons
	Days	Start	End	w/ Total	Per Day
MONTHLY TOTALS	3	1,952,000	2,018,000	66,000	22,000



September 22, 1992

Mr. Bruce E. Merchant Department of Public Utilities City of Kalamazoo 1415 N. Harrison Kalamazoo, MI 49007-2565

RE: Allied Paper, Inc. HRDL Water Treatment Plant, Possible Detection of PCBs in Effluent

Dear Bruce:

As discussed with you on September 18, 1992, the most recent laboratory analytical results (sampled August 23, 1992) for the treatment plant effluent at the Allied Paper, Inc. Historical Residuals Dewatering Lagoons (HRDLs) indicate detection of PCBs at a concentration just above the laboratory detection limit. These results indicate the first detection of PCBs in any samples from the system since operations began in May 1991. The laboratory report (enclosed) indicated a PCB concentration of 0.1 ug/l at the mid-point (between the first and second carbon unit) and 0.11 ug/l in the effluent sample (after the second carbon unit). The laboratory detection limit for the PCB analyses is 0.1 ug/l.

In accordance with the Administrative Order under which Allied discharges the treated water to the City, as Allied's consultant, LTI has implemented the following actions regarding the possible violation:

- 1) Notified the City within 24 hours of becoming aware of the possible violation. LTI became aware of the possible violation on September 17, 1992 and notified you by telephone on September 18, 1992.
- 2) Ceased discharge to the City. Although not required by the Administrative Order, discharge to the City has ceased. No water has been discharged since September 8, 1992.
- 3) Resampled the effluent. On September 18, 1992, the treatment system was operated in the recycle configuration (no discharge) and samples were collected from the mid-point and effluent.
- 4) Began investigations. Since September 18, 1992, LTI has been conducting investigations to identify possible causes of the laboratory detection and to identify and recommend solutions to minimize the potential for recurrence in the future.
- 5) Notify the City in writing. As you requested, this letter presents written notification and documentation of the possible violation.

POSSIBLE CAUSES

On September 18, 1992 LTI began investigating the causes of the possible violation, and began evaluating system and operational changes that could be implemented to minimize the potential for future occurrences. Our preliminary conclusions regarding potential causes of the possible violation include the following:

- o False positive laboratory reading. It is possible that the sample result does not accurately reflect and therefore is not representative of the actual PCB concentrations in the effluent, especially since the reported concentrations are at or just above the method detection limit. Other sources of a non-representative sample include contamination of the sample during sampling or in the laboratory.
- o Assuming that the laboratory results are an accurate representation of the effluent sample, possible causes of the detection include the following:
 - 1) Sloughing of impacted bio-floc that may accumulate on the carbon during operation and especially during down times.
 - 2) Short circuiting through possible channels within the carbon units.
 - 3) Premature saturation and breakthrough of the carbon units.

As you are aware, it may be impossible to prove that the cause of the detection was attributable to sampling or laboratory error, even though these sources of error are common. Similarly, if laboratory or sampling error was the cause, it is not possible to eliminate the potential for it occurring in the future.

Although our investigation is not yet complete, the system and operational changes that we are evaluating to minimize the potential for recurrence (assuming that the cause was systematic) include the following:

Possible System Changes:

- 1) Install a contact chlorinator unit on the influent to disinfect the influent and minimize the growth of bio-floc on the carbon. Minimizing the growth of bacteria and algae would minimize the potential for sloughing of impacted bio-floc during start-up of the units.
- 2) Install a vacuum loop between the effluent and second and first carbon canisters to maintain water in the units between periods of operation. The maintenance of water in the units should minimize creation of channels during start-up of the system.

3) Complete carbon changeout. Based upon LTI's evaluation and discussion with the manufacturer, a complete carbon changeout should not yet be necessary. Only 500,000 gallons have been pumped through the carbon since the last changeout. Because both the mid-point and effluent samples had similar laboratory results, it appears that the most likely cause would be sampling or laboratory error, short-circuiting or sloughing rather than premature break-through. The confirmatory laboratory results should provide additional information with respect to the need for a carbon changeout.

Possible Operational Changes

- 1) Change discharge operation to "batch" mode. The system could be operated such that discharges could occur in monthly "batches". Samples would be collected and analyzed before each "batch" is discharged. For example, the system would be run in the recycle mode and sampled. Once the laboratory results indicate no detected PCBs, the system would discharge to the City for one month. At the beginning of the second month, the system would recycle and the second monthly sample would be collected, and so on. If the laboratory results indicated detection of PCBs in the effluent, confirmatory sampling and/or system correction would be performed before discharging that "batch".
- 2) Recycle after each down period. The plant is operated on an intermittent as needed basis. The operation of the system could be changed such that after any significant down period, the system is recycled to eliminate any short circuit channels and sufficiently flush any accumulated bio-floc In addition, the operation of the system could be changed to minimize the number of down periods per year. For example, the system could be operated continuously for longer duration's and then shut down for longer duration's.

After receipt and review of the confirmatory laboratory results and completion of LTI's investigation, a course of action consisting of one, all or combination of the above actions or others will be recommended. We will propose the recommended course of action to the City and seek your approval for implementation.

Should you have any questions or comments regarding this report, please don't hesitate to call me at (313) 973-8300 or Mr. Jon DeWitt of Varnum, Riddering, Schmidt and Howlett at (616) 459-4186

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson

Project Manager

GWP/sv Enclosures KAR Laboratories, Inc.

ANALYTICAL REPORT

To: Limno-Tech (LTI) Project No.: 921923

2395 Huron Parkway Client No.: 1826
Ann Arbor, MI 48104 Project Date: 8/24/92
Date Promised: 9/14/92

Attn: Mr. Gregory Peterson Date Reported: 9/14/92

PO#:

Project Desc.: Analysis of four samples from Allied Paper/H.M. Holdings

(JD7-2).

Sample No.:921923-03 Type:aqueous Rec'd: 8/24/92 Sampled: 8/23/92

ID: "Treatment Plant-Discharge, 17:00"

Solids, volatile 215 mg/L Suspended solids, total 18 mg/L PCB, total 0.11 ug/L

Identified and quantified as Aroclor 1242.

Sample No.:921923-04 Type:aqueous Rec'd: 8/24/92 Sampled: 8/23/92

ID: "Treatment Plant-Midpoint, 17:00"

Solids, volatile 181 mg/L Suspended solids, total 19 mg/L PCB, total 0.10 ug/L

Identified and quantified as Aroclor 1242.

Unless otherwise noted, test results represent the sample(s) as they were received.



October 16, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N Harrison Kalamazoo, MI 49007-2565

RE: Allied Paper, Inc. HRDL Water Treatment Plant, Possible Detection of PCBs in Effluent

Dear Bruce:

On behalf of HM Holdings/Allied Paper, Inc., as a follow-up to my letter to you of September 22, 1992, this letter presents the results of the September 18, 1992 resampling of the mid-point and discharge at the Allied Paper, Inc. treatment plant. No PCBs were detected in the mid-point or effluent of the treatment plant. These results (enclosed) indicate that the treatment plant is functioning properly. These results indicate that the possible PCB detections that were reported for the August 23, 1992 samples may have been "false positives" or were attributable to transient channeling of the carbon or sloughing of bio-floc. A complete carbon changeout does not appear necessary at this time.

In my September 22, 1992 letter to you, we proposed several system and operational changes that could be implemented to minimize the potential for similar possible violations in the future. We'd like to discuss these options with you at your earliest convenience so that we can implement appropriate actions and resume plant operations.

Should you have any questions regarding this subject, please don't hesitate to call me.

Sincerely,

LTI. Limno-Tech

Gregory W. Peterson Project Manager

GWP

Enclosures

cc: Jon F. DeWitt Jim Werling

c:\jd7koo\pebconf.doc

KAR Laboratories, Inc. 4425 Manchester Road Kalamazoo, MI 49002

	/ /	
(616) 381-9666	V \	

Date Reported:

ANALYTICAL REPORT

To: Limno-Tech (LTI)

2395 Huron Parkway Ann Arbor, MI 48104

Attn: Mr. Gregory Peterson

Proj. No.: 922207 Client No.: 1826 Date Activated: 9/18/92 Date Promised: 9/25/92

9/25/92

PO#:

Project Desc.: Analysis of one sample from Allied Paper/H.M. Holdings (LTI:

JD7-2).

Dear Client:

Attached you will find test results for Project No. 922207. Please refer to this Project No. if you have any questions regarding this work.

Respectfully submitted, KAR Laboratories, Inc.

William H. Bouma, Ph.D.

Director

KAR Laboratories, Inc. Page 1

ANALYTICAL RESULTS

To: Limno-Tech (LTI) Project No: 922207
Report Date: 9/25/92

Project Desc.: Analysis of one sample from Alli'ed Paper/H.M. Holdings

(LTI: JD7-2).

Sample No.: 922207-01 Type: aqueous Rec'd: 9/18/92 Sampled: 9/18/92

ID: "Midpoint, 15:00"

Suspended solids, total 2 mg/L Suspended solids, volatile <1 mg/L PCB, total <0.1 ug/L

Sample No.: 922207-02 Type: aqueous Rec'd: 9/18/92 Sampled: 9/18/92

ID: "Discharge, 15:00"

Suspended solids, total 2 mg/L Suspended solids, volatile <1 mg/L PCB, total <0.1 ug/L

Unless otherwise noted, test results represent the sample(s) as they were received.



FACSIMILE TRANSMITTAL COVER SHEET

COMPANY: _	Bruce Merchant Kalamara Water Radamatian Plant	
COMMENTS:		
ORIGINAL :	WILL FOLLOW BY REGULAR MAIL	
	WILL NOT FOLLOW	
	WILL FOLLOW VIA FEDERAL EXPRESS	
FROM:	Grea Peterson Pages Following: 4	
PROJECT:	JD7	
DATE:	10/16	



October 17, 1992

Mr. Bruce E. Merchant Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, MI 49007-2565

RE: Monthly Discharge Volumes for Allied Paper, Inc. Treatment Plant - September, 1992

Dear Bruce:

Enclosed with this letter, please find the monthly sampling and maintenance log for the Allied Paper HRDL water treatment plant for the month of September, 1992. During September, Allied treated and discharged a total volume of 66,000 gallons of water to the City. As discussed in my letters to you of September 22, 1992 and October 16, 1992, the discharge was ceased on September 17, 1992 when it was discovered that there had been a possible violation associated with the August 23, 1992 sample. The last time that the plant was operated was September 8, 1992.

Should you have any questions or comments regarding this letter or the Allied treatment system, please don't hesitate to contact me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson

Project Manager

GWP/act

cc: Jon F. DeWitt
Jim Werling

HM HOLDINGS/ALLIED PAPER, INC. HRDI. AND DECANT LAGOON STORMWATER MANAGEMENT PLAN Monthly Sampling and Maintenance Log

Month SEPTEMBER

Year 1997

	Start	End	Daily	Pump	GAC	GAC	Requisite	Operational
Day	Volume	Volume	Valume	Maintenance	Backwash	Changeout	Sampling	Sampling
1		1,976,000	24,000					
2		1,993,000	16,000	Oilchange				
3		1,997,000	0					
4		1,992,000	0					
5	1,992,000	1,992,000	0					
6	1,992,000	1,992,000	0					
7	1,992,000	1,992,000	0					
8	1,992,000	2,018,000	26,000					
	2,018,000		0					
	1,018,000		0					
11		2,018,000	0					
12		2,018,000	0					
13	2,018,000		0					
	2,018,000		0					
15	2,018,000		0					
16		2,018,000	0					
17		7,018,000						
18		2,018,000	OBecycle				Yes	
19		2,018,000	<u>U</u>	Pump Serviced				
20	2,018,000		0	,				
21	3,018,000	2,018,000	0					
22	2,018,000	2,018,000	0					
23		2,018,000	0					
24	2,018,000		0					
25	2,018,000		0					
26	2,018,000		0					
	2,018,000		0					
28	2,018,000		0					
29	2,018,000	2,018,000	0					
30	2,018,000	2,018,000	0					
31								

	Pumping	Volume	Volume	Monthly	Avg. Gallons
	Days	Start	End	w/ Total	Per Day
MONTHLY TOTALS	3	1,952,000	2,018,000	66,000	27,000



October 17, 1992

Mr. Bruce E. Merchant Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, MI 49007-2565

RE: Monthly Discharge Volumes for Allied Paper, Inc. Treatment Plant - September, 1992

Dear Bruce:

Enclosed with this letter, please find the monthly sampling and maintenance log for the Allied Paper HRDL water treatment plant for the month of September, 1992. During September, Allied treated and discharged a total volume of 66,000 gallons of water to the City. As discussed in my letters to you of September 22, 1992 and October 16, 1992, the discharge was ceased on September 17, 1992 when it was discovered that there had been a possible violation associated with the August 23, 1992 sample. The last time that the plant was operated was September 8, 1992.

Should you have any questions or comments regarding this letter or the Allied treatment system, please don't hesitate to contact me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/act

cc: Jon F. DeWitt Jim Werling



November 9, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: Allied Paper, Inc. Historical Residual Dewatering Lagoon Treatment Plant

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly self-monitoring report for the operation of the treatment plant at the Allied Site for the Month of October 1992. During October, no water was discharged to the City from the Allied treatment plant. Therefore no pumping records or sampling results are enclosed.

In accordance with phone conversations with Mr. Bob O'Day and Mr. Kent Montiger of your office and consistent with the recommendations contained in my September 22, 1992 and October 16, 1992 letters to you, Allied plans on changing operations at the treatment plant and resume treatment this week. The operation changes are intended to further minimize the potential for possible violations in the future. The operational changes include recycling the water sufficiently, prior to discharge, to minimize the potential for channeling of the carbon or sloughing of accumulated bio-floc. In addition, samples of the effluent will be collected and analyzed before water is discharged to the City for a given month.

Specifically, the operation will include the following steps:

- 1. Before discharging to the City sanitary sewer each month, the treatment plan will be operated in a recycle mode. Water will be pumped from the holding tank through the carbon system and then back to the holding tank.
- 2. The effluent will be monitored over the recycle period for visual clarity.
- 3. When the operator has determined that the system has sufficiently recycled (by effluent clarity observations), he will obtain the monthly monitoring samples. The samples will be analyzed by Consumers Powers Laboratories on a 24 hour turn around basis.
- 4. If the sample results indicate compliance with the conditions of the Administrative Order, Allied will begin discharging to the City for that month. If the results indicate non-compliance, then no discharge will occur until the problem is corrected and additional confirmatory samples are collected.

5. During a given month, if there is a significant down-period (greater than three days), upon restarting operations, the system will be operated in the recycle mode and monitored for visual clarity. Once the system has been sufficiently recycled (the effluent is visually clear), the discharge to the sanitary sewer will commence.

Bruce, if you, Bob, Kent, or Tim have any questions regarding this letter or the proposed changes please don't hesitate to contact me. We are operating the plant in recycle mode today and plan to collect the November samples. We plan to resume discharging to the City on Wednesday, November 11, 1992 pending receipt of acceptable laboratory results.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/jlt

cc: Tim Meulenberg
Jon F. DeWitt
Jim Werling
Kent Montiger
Bob O'Day

jd7kzoo.doc



DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamazoo Michigan 49007-2565 (616) 337-8157 FAX (616) 337-8699

November 17, 1992

Mr. Gregory W. Peterson Project Manager LTI-Limno-Tech, Inc. 2396 Huron Parkway Ann Arbor, MI 48104

Dear Mr. Peterson:

This is to confirm our telephone conversation on November 17, 1992 regarding sampling at the Allied Paper HRDL Treatment Plant. The sampling plan presented in your letter of November 9, 1992 would certainly ensure that the treatment system is operating properly and no PCBs could be discharged during the recycled phase of operation. Our only concern is that those samples may not be representative of the discharge once the system reaches normal, single pass operation. Consequently, we are requiring that a sample be collected each month during the normal, single pass operation.

In addition to what we discussed, we are requesting that we be notified of the commencement of discharges and the switching to normal operation. This will enable us to conduct our monitoring in an appropriate manner. Please call Robert O'Day at 337-8705, Tim Meulenberg at 337-8716, or me at 337-8715. A message left on the answering machine at any of these numbers would be sufficient.

We wish to thank you for the excellent cooperation your firm has displayed throughout this project.

Sincerely,

Kent Mottinger,

Industrial Services Supervisor

Kent mittinger

c: B. Merchant

T. Meulenberg

R. O'Day





January 11, 1993

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site. Monthly Self-

Monitoring Report-December 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for December, 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator and laboratory reports for the effluent samples.

Allied pumped, treated, and discharged a total volume of 199,000 gallons of water in December. The daily pumping records are provided in the enclosed summary. Effluent samples were collected on December 1, 1992, from the recycle mode and sent to Laboratory Commercial Services for analysis of PCBs. The analytical results are attached and indicate compliance with the terms of the Administrative Order. No PCBs were detected in any of the samples analyzed. Effluent samples from the discharge mode were also collected on December 23, 1992 and analyzed for the full list of semi-annual parameters at Kar Laboratories. The results are not yet available but will be submitted along with the next monthly report.

Should you have any questions regarding this report, please call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

Enclosures

GWP/smv

cc: Tim Meulenberg

Jon F. DeWitt Jim Werling

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HRDL AND DECAN1 LAGOON STORMWATER MANAGEMENT PLAN

Monthly Sampling and Maintenance Log

Month Decemb	24~
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Year 1992

	Start	End	Daily	Pump	GAC	GAC	Requisite	Operational
Day	Volume	Volume	Volume	Maintenance	Backwash	Changeout	Sampling	Sampling
1	2202,000	2,202,000	O-Recycle	oilchange			yes	
2	2,202,000		0	0			7	
3		2,230,000	28,000					
4		2,255,000	25,000					
5		2,255,000	0					
6		2,255,000	0					
7	2,255,000	3,261,000	6,000					
8	2,261,000	2,261,000	0					
	2,261,000		0					
	2,261,000		0					
	2,261,000		25,000					
	2,286,000		0					
13	2,286,000	2,286,000	0					
	2,286,000	2,286,000	0					
	2,286,000	2,286,000	0					
	2,286,000	2,314,000	28,000					
	2,314,000		20,000	oil change				
	2,334,000		0	0				
	2,334,000		0					
	2,334,000							
21	2,334,000	2,334,000	0					
22	2,334,000	2,334,000	O					
	2,334,000		29,000				yes	
24	2,363,000	2,395,000	32,000					
25	2,395,000	2,395,000	Q					
26	2,395,000	2,395,000	<i>Q</i>					
27	2,395,000							
28	2,395,000		O					
29	2,395,000		0					
30	2,395,000	3,395,000	00					
	2,395,000		6,000					

	Pumping	Volume	Volume	Monthly	Avg Gallons
	Days	Start	End	w/ Total	Per Day
MONIHLY TOTALS	9	2,202,000	2 401 000	199 000	22 100

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTT - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 539253-781-125 Report Date:

12-02-92

Site Location: Allied Paper - H.M. Holding Treatment Plant

Project #

LTI - JD7-2

Sample ID: Sample Type:

Discharge - Treatment Plant

Water

Collected By: Iti Received Date: 12-01-92

12-01-92 Sample Date: Analysis Date: 12-01-92

LCS Control Number: 922125-01

PARAMETER	RESULTS	WDL
1	nā√r	ug/L
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248	nd nd nd nd nd	0.1 0.1 0.1 0.1
PCB-1254 PCB-1260	nd nd	0.1
TOTAL PCB	ı nd	

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB

Only). | SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA.

MDL = Method Detection Limit, ug/L (parts-per-billion)

nd = Parameter not detected At | MDI.

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3043

Date /20292

LABORATORY COMMERCIAL SERVICES A Division Of Consumers Power Company Jackson, Michigan 49201

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 539253-781-125 Report Date: 12-02-92

Site Location: Allied Paper - H.M. Holding Treatment Plant

Collected By: 1ti

Project # LTI - JD7-2
Sample ID: Midpoint - Treatment Plant
Sample Type: Water Colle
Sample Date: 12-01-92 Recei Received Date: 12-01-92

Analysis Date: 12-01-92 LCS Control Number: 922125-02

PARAMETER	RESULTS ug/L	MDL ug/L
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	nd nd nd nd nd nd	0.1 0.1 0.1 0.1 0.1 0.1
TOTAL PCB	nd	

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA.

MDL = Method Detection Limit, ug/L (parts-per-billion) NOTES:

nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3043

|CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc.

2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 539253-781-125 Report Date: 12-02-92

Site Location: Allied Paper - H.M. Holding Treatment Plant

Project # LTI - JD7-2 Sample ID: As Indicated As Indicated

Sample Type: Water
Sample Date: 12-01-92

Collected By: lti Received Date: 12-01-92

Analysis Date: 12-02-92

LCS Control Number: 922125

CONTROL NUMBER	SAMPLE ID	TSS mg/L	VSS mg/L
922125-01	Discharge - Treatment Plant	/ 6.3 /	5.7
922125-02	Midpoint - Treatment Plant '	6.6	5.5

NOTES: TSS = Total Suspended Solids, mg/L (parts-per-million) VSS = Volatile Suspended Soilds, mg/L (parts-per-million)

METHODS: Standard Methods For The Examination Of Water and Waste-

Water, 17th Ed. (1989)

TSS (Total Suspended Solids), Method 2540 D VSS (Volatile Suspended Soilds), Method 2540D

Data Ref: 192glc218

Date /20297

January 21, 1993

Mr. Bruce Merchant The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, Michigan 49007-2565

RE: Allied Paper, Inc. HRDL Treatment Plant

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter is intended to follow-up on telephone conversations with Mr. Bob O'Day and Mr. Tim Meulenberg of January 18, 1993. We became aware of a possible violation of the permit limits contained in the Administrative Order (AO) for the Allied HRDL treatment plant on January 18, 1993. The effluent sample collected on December 23, 1992 was reported by Kar Laboratories to contain 0.14 ug/l PCBs. The laboratory report is included in the attachments. In accordance with the conditions of the AO, we notified the City of the possible violation within 24 hours of becoming aware. In addition, we have ceased discharge. This letter provides written notice of the possible violation and presents our plan for systematic changes to minimize the potential for possible violations in the future. In addition, enclosed with this letter is the semi-annual report for the period of July 1, 1992 through December 31, 1992.

After conferring with the operator, laboratories and the carbon treatment system vendor, we believe that the causes of the possible violation may include the following:

1) False positive laboratory result - It is possible that the laboratory report for the December 23, 1992 sample is either a false positive or is not representative of the effluent discharge. Five sets of samples collected before and after December 23, 1992 all showed no detectable PCBs. An effluent sample collected by the City on November 18, 1992 showed no detectable PCBs. Four effluent and four mid-point samples were collected and analyzed by Consumers Power Laboratory Analytical Services on November 10, 1992, November 25, 1992, December 1, 1992 and January 4, 1993. No PCBs were detected in any of these samples at a detection limit of 0.1 ug/l. Consumers Power Laboratory was contracted to perform these analyses (rather than Kar) because they offered 24 hour turn around. Three sets of these samples were collected during the recycle phase of operation, and the fourth set (November 25, 1992) was collected during the direct discharge phase.

If the laboratory report is accurate, it is possible that contamination of the samples inadvertently occurred during sampling or in the laboratory. We will begin collecting field blanks with every sample to monitor possible sampling contamination. We have requested the laboratory QA/QC information and will review the results to determine whether additional QA/QC procedures are warranted.

- 2) Premature Carbon Breakthrough It is possible that the carbon has prematurely reached breakthrough. According to the vendor, this is very unlikely given that the units should be able to handle at least 25 million gallons (at 5 ug/l PCB influent). We've treated less than 2 million gallons since the last change-out. Furthermore, we'd expect breakthrough in the first unit (measured at the mid-point) well before seeing any detectable PCBs in the effluent. The report for the December 23, 1992 samples indicated that PCBs were detected at both the mid-point and effluent. As a conservative measure, we will change out the carbon before resuming discharge.
- 3) Carbon Channeling It is possible that channels may form in the carbon beds and therefore decrease the contact time. We have taken precautions to minimize the potential for this to occur. Whenever the system is shut down for more than a day, we recycle before discharging to allow the units to re-equilibrate. Pressure gage readings which are monitored continually during operation do not suggest that syphoning or short circuiting is occurring, as constant head loss is maintained across the units. In addition, the suspended solids concentrations have been consistently low since the operational changes (recycle) were implemented this fall in accordance with our agreements with the City of November 17, 1992. However, as a conservative measure, we will install a vacuum loop in the system to prevent syphoning and to minimize the potential for carbon channeling.
- 4) Suspended Solids or Entrained Carbon Particles It is possible that suspended solid or carbon fines are being discharged in the effluent. However, the evidence does not suggest that this is occurring, (i.e.: there are no visible signs of carbon particles in the samples, and the samples have low suspended solids concentrations, in addition the possible violations have been very infrequent.) If the measures outlined below do not eliminate future possible violations, it may be necessary in the future to evaluate changes in the pre-carbon or post-carbon filtration system. We would propose evaluating multi-media filters, or ultra-filtration units, or carbon units or additional basket filters.

Proposed Plan

Although it is possible that the December 23, 1992 results were not representative of the discharge, HM Holdings, Inc./Allied Paper, Inc. proposes to implement the following systematic and operational changes to the treatment system before resuming discharge in order to minimize the potential for future possible violations.

- 1) The operational changes recently implemented will be continued in accordance with Mr. Mottinger's letter of November 17, 1992.
- 2) The carbon will be changed out before resuming discharge.
- 3) A vacuum loop will be installed in the system to prevent syphoning and tank drainage, and thereby minimize the potential for channeling in the carbon due to system start-ups and shut-downs.

- 4) All treatment plant samples that are collected will be analyzed on a 24 hour turn around basis so that we can identify possible problems, cease discharge, and address the problems more rapidly.
- 5) Field blanks will be submitted with every set of effluent samples and analyzed for PCBs. The field blanks will consist of distilled water that is poured into sampling containers on-site during the time of collection.

Bruce, should you, Kent, Bob, or Tim have any questions regarding this letter, please don't hesitate to contact me. Given the present lagoon levels and projections for precipitation and snow melt, we need to be able to resume pumping soon. We plan to change out the carbon, and install the vacuum loop next week so that we can resume discharge. Please let me know if this plan is acceptable to the City as soon as possible. Thank you for your continued help and cooperation.

Sincerely

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/smv

Enclosure

cc: Jon F. DeWitt

James Werling Bob O'Day

Tim Meulenberg

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KALAMAZOO WATER RECLAMATION PLANT INDUSTRIAL USER SELF-MONITORING REPORT

(1) Facility	HM Holdings, In	corporated			(2)	Due Date	January 1	10, 1992
	Dewatening lagoons site at old Allied Paper site							
	Kalamazoo, Mi	49002			,			
(4) Location	Dewatering Lag	oons, Pretreatmen	it System Dischar	ge	(3)	Sample Point	t Code	нмн
(5) Purpose of \$	Sampling 🔀	Routine Periodic	Report Period		July	/ 1, 1992 - De	cember 31, 1992	
		Violation Resam	pling					
	لـا	Other						
(6) Sampling Me	ethod	Effluent Sample	Port - Grab					
								
(7) Date and Tir	me of Composite	Samples	Start				End .	
(8) Date and Tir	me of Grab Samp	oles	12/23/92 - 16 00	, See Attached for	or PC	Bs		
(9)			RES	ULTS				
Parameter	Value	Units	Sample Type*	Parameter		Value	Units	Sample Type*
Cadmium T	<0 005	mg/l	G	Mercury, T		<0 0005	mg/l	<u> </u>
Chromium, T	<0 01	mg/l	G	Cyanide, T		<0 02	mg/l	G
Copper, T	0 02	mg/l	G	рН		7 5	SU	G
Lead, T	<0 002	mg/l	G	РСВ, Т	_		see attached table	·
Nickel, T	0 02	mg/l	G					
Zinc, T	0.01	mgΛ	G					
* Sample T	ype G = Grab sa	ample, C = Comp	osite Sample	<u> </u>				
(10) Name of L	abamtan.	VAD Laboratoria	- 100			/ ^ +	took ooning of Loi	nemteni Bosiite)
(10) Name of L	aboratory	Consumer's Pov	ver Laboratory An	alvical Services		(At	tach copies of Lat	boratory Results)
								·
(11) Flow	Average Daily	19,500 gal	lons per day	Maximum Daily		47	,000 gallons per o	lay
with a syst inquiry of t information	tem designed to a the person or pen n submitted is, to	w that this docume assure that qualifie sons who manage the best of my knose information, incl	ed personnel prop the system, or the owledge and belie	erly gather and e ose persons dire of, true, accurate,	valua ctly r and	ite the informations the second in the secon	ation submitted E r gathering the inf im aware that ther	based on my ormation, the
	^						-	
0 4.	Я.	1		D 444			D :	04 1:: 00
Signature	- Jugar C	Veren	Title	Project Manage	r		. Date	21-Jan-93
	Gregory W Pet	terson						
	LTI, Limno-Tec							
Mail to			TRIAL PRETREA	TMENT COORI	DINA	TOR	*****	

Kalamazoo Water Reclamation Plant

1415 N Harrison

Kalamazoo MI 49007-2565

Attacher of to Industrial USR ;
Self-monthorny Report

Allied Paper HRDL Treatment Plant PCB Results for Effluent Samples July 1, 1992 - December 31, 1992

Sample Date	Sample Time	[PCB]	Units	Sample Type
========	*****	=====	=====	========
8-23-92	17:00	0.11	ug/l	G
9-18-92	15:00	< 0.10	ug/l	G
11-10-92	12:45	< 0.10	ug/l	G
11-25-92	13:00	< 0.10	ug/l	G
12-01-92	9:00	< 0.10	ug/l	G
12-18-92	13:35	< 0.10	ug/l	G - City
12-23-92	16:00	0.14	ug/l	G
1-04-93	12:40	< 0.10	ug/l	G

Page 1

ANALYTICAL RESULTS

To: Limno-Tech (LTI)

Project No: 922994

Report Date: 1/13/93

Project Desc.: Analysis of two aqueous samples from Allied Paper/H.M.

Holding (JD7-2)

Sample No.:922994-01 Type:aqueous Rec'd: 12/23/92 Sampled: 12/23/92

ID: "Midpoint, 16:05"

PCB, total 0.18 ug/L Identified and

quantified as Aroclor 1242.

Sample No.:922994-02 Type:aqueous Rec'd: 12/23/92 Sampled: 12/23/92

ID: "Discharge, 16:00"

were received.

Suspended solids, total 4 mg/LSuspended solids, volatile 2 mg/L<0.005 mg/L Cadmium, total Chromium, total < 0.01 mg/LCopper, total 0.02 mg/L Lead, total <0.002 mg/L Mercury, total Nickel, total <0.0005 mg/L 0.02 mg/L Zinc, total 0.01 mg/L BOD9 mg/LCyanide, total <0.02 mg/L 7.5 S.U. PHPCB, total 0.14 ug/L

Identified and quantified as Aroclor 1242.

Unless otherwise noted, test results represent the sample(s) as they

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-015 Report Date: 01-05-93

Site Location: Allied Paper - H.M. Holding Treatment Plant

Project # LTI - JD7-2
Sample ID: Discharge - Treatment Plant
Sample Type: Water Collect
Sample Date: 01-04-93 Receive Collected By: 1ti

Received Date: 01-04-93

Analysis Date: 01-05-93 LCS Control Number: 930015-01

PARAMETER	RESULTS ug/L	MDL ug/L
PCB-1016	nd	0.1
PCB-1221	nd	0.1
PCB-1232	nd	0.1
PCB-1242	nd	0.1
PCB-1248	nd	0.1
PCB-1254	nd	0.1
PCB-1260	nd	0.1

TOTAL PCB nd

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB

Only). SW-846, Test Methods For Evaluating Solid Waste - Physical / Chemical Methods, USEPA.

MDL = Method Detection Limit, ug/L (parts-per-billion) NOTES:

nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3078

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-015 Report Date: 01-05-93

Site Location: Allied Paper - H.M. Holding Treatment Plant

Project # LTI - JD7-2 Sample ID: Midpoint - Treatment Plant

Collected By: lti

Sample ID: Midpoint Sample Type: Water
Sample Date: 01-04-93 Received Date: 01-04-93

Analysis Date: 01-05-93 LCS Control Number: 930015-02

PARAMETER	RESULTS ug/L	MDL ug/L
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	nd nd nd nd nd nd	0.1 0.1 0.1 0.1 0.1 0.1
TOTAL PCB	nd	

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB

Only). SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA.

MDL = Method Detection Limit, ug/L (parts-per-billion)

nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3078

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-015 Report Date: 01-05-93

Site Location: Allied Paper - H.M. Holding Treatment Plant

Collected By: lti

Project # LTI - JD7-2
Sample ID: As Indicated
Sample Type: Water
Sample Date: 01-04-93 Received Date: 01-04-93 Analysis Date: 01-05-93 LCS Control Number: 930015

CONTROL NUMBER	SAMPLE ID	TSS mg/L	VSS mg/L
930015-01	Discharge - Treatment Plant	5.3	4.7
930015-02	Midpoint - Treatment Plant	5.0	4.2

NOTES: TSS = Total Suspended Solids, mg/L (parts-per-million) VSS = Volatile Suspended Soilds, mg/L (parts-per-million)

METHODS: Standard Methods For The Examination Of Water and Waste-

Water, 17th Ed. (1989)

TSS (Total Suspended Solids), Method 2540D

VSS (Volatile Suspended Soilds), Method 2540D ______

Data Ref: 193glc234

Reviewed By HOOog Date 0/0523

)

Attachment to Industrial User Self-Monitoring Report July 1, 1992 - December 31, 1992 Allied Paper HRDL Treatment Plant PCB Results for Effluent Samples

Sample Date	Sample Time	[PCB]	<u>Units</u>	Sample Type
8/23/92	17:00	0.11	ug/l	G
9/18/92	15:00	< 0.10	ug/l	G
11/10/02	12:45	< 0.10	ug/l	G
12/01/92	13:00	< 0.10	ug/l	G
12/18/92	9:00	< 0.10	ug/l	G-City
12/23/92	16:00	0.14	ug/l	G
1/04/92	12:40	< 0.10	ug/l	G



March 10, 1993

Mr. Bruce Merchant Department of Public Utilities City of Kalamazoo 1415 N Harrison Street Kalamazoo, MI 49007-2565

RE: HM Holdings, Inc./Allied Paper, Inc. HRDL Treatment Plant, Monthly Self-

Monitoring Report for February, 1993

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly self-monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for February 1993. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator and the laboratory report for effluent samples collected in February.

As discussed in the monthly report for January 1993, system changes were completed on January 27, 1993. Allied pumped, treated and discharged a total of 549,000 gallons of water in February prior to shut-down of the system on February 24, 1993. Effluent samples were collected on February 2, 1993 and February 24, 1993. The results for the February 2, 1993 samples indicated compliance with the conditions of the Administrative Order. However, a PCB concentration of 0.18 ug/l was reported in the February 24, 1993 sample.

On behalf of Allied, LTI reported the possible violation on March 1, 1993, within 24 hours of becoming aware. The system has been shut down, and we are presently evaluating treatment and discharge alternatives that can be implemented to prevent future possible violations. We plan on completing the evaluation within the next few weeks and will submit a proposal for your review.

Should you have any questions or comments regarding this report, please don't hesitate to contact me.

Sincerely.

LTI, Limno-Tech, Inc.

Gregory W. Peterson

Project Manager

Enclosures

cc:

Tim Meulenberg Jon F. DeWitt Jim Werling

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HIGHOLDING: LIHED PAPER, MC. HROLAND DECANT LANDON STORMWATER MANAGEMENT PLAN Monthly Sampling and Maintenance Log

Month FEBRUARY

Year <u>1993</u>

			<i>'</i>					
	Start	End	Daily	Pump	GAC	GAC	Requisite	Operational
Day	Volume	Volume	Volume	Maintenance	Backwash	Changeout	Sampling	Sampling
		2,990,000	Recycle - O-Flush	provinces and the second secon		,* · · · · ·		
2 7	2,990,000	2,990,000	Recycle - O-Flush	THE RESERVE AND THE PROPERTY OF THE PROPERTY O			Yes	
3 ∿	2,990,000	3,010,000	20,000	yes-				
4 7	3,010,000	3,052,000	42,000	yes-				
	3,057,000		47,000					
	3,099,000		44,000			······································		
7 s	3,143,000	3,183,000	40,000	no arrando de casa de				
		3,229,000	46,000					Yes-Bob Dony
		3,273,000	44,000					
<u>_ 10 مي</u>	3,273,000	3,311,000	38,000	Oil change				
		3,346,000	35,000					
		3,389,000			yes-Primy			
		3,419,000		·				<u> </u>
		3,419,000	0	en e	l			ļ
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		3,419,000	0		1 To the second	***		
		3,434,000	15,000 - R					
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			15,000-K		<u>.</u>			
		3,504,000	35,000	The second transfer to the second sec		****	1/	
		3,539,000					Yes.	<u> </u>
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29	3,337,000	3,337,000						<u> </u>
30				a company of the control of the cont				
31				Maria angle in angle of the part of the incident				
<u> </u>			Pumping	Volume	Volume	Monthly	Ave Gallon	

Pumping Volume Volume Monthly Avg. Gallons
Days See Und W. Total Per Day

MONTHLY FOTALS 16 System and 2.535, Guide, 49,000 36, 300

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-278 Report Date: 02-03-93

Site Location: Allied Paper - H.M. Holding

Project # LTI - JD7-2 Sample ID: Discharge

Sample Type: Water Sample Date: 02-02-93 Collected By: lti

Received Date: 02-02-93

Analysis Date: 02-03-93 LCS Control Number: 930278-01

PARAMETER .	RESULTS	MDL ug/L
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254	nd nd nd nd nd	0.1 0.1 0.1 0.1 0.1
PCB-1260 TOTAL PCB	nd nd	0.1

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste -Physical / Chemical Methods, USEPA. MDL = Method Detection Limit, ug/L (parts-per-billion) NOTES: nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3103

Reviewed By HWW of Date 03-27

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-278 Report Date: 02-03-93

Site Location: Allied Paper - H.M. Holding

Project # LTI - JD7-2
Sample JD: Midpoint
Sample Type: Water
Sample Date: 02-02-93

Collected By: 1ti

Received Date: 02-02-93

Analysis Date 02-03-93 LCS Control Number: 930278-02

PARAMETER	RESULTS ug/L	MDL Vg/L
PCB-1016	nd	0.1
PCB-1221	nd	0.1
PCB-1232	rid	0.1
PCB-1242	nd	0.1
PCB-1248	nd	0.1
PCB-1254	rıd	0.1
PCB-1260	nđ	0.1
TOTAL PCB	nd	

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA.

MDL = Method Detection Limit, ug/L (parts-per-billion)

nd = Parameter not detected At MDL

Total FCB = Sum Of Aroclor Concentrations

Data Ref: pcb3103

Reviewed By HWOGF Date 60-03-93

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

> LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-278 Report Date: 02-03-93

Site Location: Allied Paper - H.M. Holding

Project # LTI - JD7-2
Sample ID: Field Blank
Sample Type: Water
Sample Date: 02-02-93

Collected By: lt1 Received Date: 02-02-93

Analysis Date: 02-03-93 LCS Control Number: 930278-03

PARAMETER	RESULTS ug/L	MDL ug/L
PCB-1016	nd	0.1
PCB-1221	nd	0.1
PCB-1232	nd	0.1
PCB-1242	nđ	G.1
PCB-1248	nd	0.1
PCB-1254	rd	0.1
PCB-1260	វាជា	0.1

TOTAL PCB nd

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB

Only). SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA.

MDL = Method Detection Limit, ug/L (parts-per-billion)

nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3103

Reviewed By H.W. Ogt Date 02-03-93

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-278 Report Date: 02-03-93

Site Location Allied Paper - H.M. Holding Treatment Plant

Project # LTI - JD7-2
Sample ID: As Indicated
Sample Type: Water
Sample Date: 02-02-93

Collected By: lti

Received Date: 02-02-93 LCS Control Number: 930278 Analysis Date: 02-03-93

CONTROL NUMBER	SAMPLE ID	TSS mg/L	VSS mg/L
930278-01	Discharge	2.6	2.5
930278-02	Midpoint	4 5	3.3
930278-03	Field Blank	0.2	0.2

TSS = Total Suspended Solids, mg/L (parts-per-million) VSS = Volatile Suspended Soilds, mg/L (parts-per-million)

Standard Methods For The Examination Of Water and Waste-METHODS:

Water, 17th Ed (1989)

TSS (Total Suspended Solids), Method 2540D VSS (Volatile Suspended Soulds), Method 2540D

Data Ref: 193glc254

Reviewed By /(U) and Date 02-03-73

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CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

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LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-475 Report Date: 02-26-93

Site Location: Allied Paper - H.M. Holding

Project # LTI - JD7Sample ID: Midpoint
Sample Type: Water
Sample Date: 02-24-93 LTI - JD7-2

Collected By: Iti

Received Date: 02-25-93

LCS Control Number: 930475-02 Analysis Date: 02-26-93

PARAMETER	RESULTS ug/L	MDL MDL
PCB-101t:	nd	0.1
PCB-1221	nd	0.1
PCB-1232	nd	0.1
PCB-1242	nd	0.1
PCB-1248	0.28	0.1
PCB-1254	nd	0.1
PCB-1260	nd	0.1
TOTAL PCB	0.28	

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste -Physical / Chemical Methods, USEPA. NOTES: MDL = Method Detection Limit, ug/L (parts-per-billion) nd = Parameter not detected At MDL Total PCB = Sum Of Aroclor Concentrations Data Ref: pcb3125 Reviewed By _ /Ca Oagt _ Date _ 02-20-53

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-475 Report Date: 02-26-93

Site Location: Allied Paper - H.M. Holding

Project # LTI - JD7-2 Sample ID: Field Blank

Sample Type: Water Sample Date: 02-24-93 Collected By: lti

Received Date: 02-25-93

Analysis Date: 02-26-93 LCS Control Number: 930475-03

PARAMETER	RESULTS ug/L	MDL ug/L
PCB-1016	nd	0.1
PCB-1221	nd	0.1
PCB-1232	nd	0.1
PCB-1242	nd	0.1
PCB-1248	nd	0.1
PCB-1254	nd	0.1
PCB-1260	nd	0.1
TOTAL PCB	nd	

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste -Physical / Chemical Methods, USEPA.

NOTES: A = Method Detection Limit, ug/L (parts-per-billion)

... = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3125

Reviewed By KCCO Conf Date 02-20-53

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-475 Report Date: 02-26-93

Site Location: Allied Paper - H.M. Holding Treatment Plant

Project # LTI - JD7-2 Sample ID: As Indicated

Collected By: lti

Sample Type: Water Sample Date: 02-24-93 Received Date: 02-25-93 Analysis Date: 02-26-93 LCS Control Number: 930475

CONTROL NUMBER	SAMPLE ID	TSS mg/L	VSS mg/L
930475-01	Discharge	12.4	10.7
930475-02	Midpoint	14.5	11.5
930475-03	Field Blank	0.2	0.4

NOTES: TSS = Total Suspended Solids, mg/L (parts-per-million)

VESS = Volatile Suspended Soilds, mg/L (parts-per-million)

METHODS: J. Hard Methods For The Examination Of Water and Waston

Witter: 17th Ed. (1989)

Tos (Total Suspended Solids), Method 2540D 1988 (Volatile Suspended Soilds), Method 2540D

Data Ref: 193jkh262

Reviewed Ey

HUD of Date 02-23-93



CHAIN OF CUSTODY RECORD

PPOJ NO JOT-2 ALLIED PAPER/ALL HOLDINGS SALAPLERS (COMPANIE) JOHN TELESON DISCHARGE TICATORAL Plant Z- And North John Toldon Treatment Plant Z- And North John Treatment Z- And Nort	Please Fax RESULTID Dohn T Peterson (313)-973-1069
Follow tothe (synta) 2-893 13.00 Follow the state of	the qual to 3 by (Signa v. c) Date; there Pecc 1, 15 g



Limno-Tech, inc. Environmental Engineering

Facsimile Cover Sheet

To:	Kent Montiger		
Company	City of Kalamazoo		
Phone: PAX:			
		—— Original:	
From:	Gregory W Peterson	Will follow by mail:	
Phone:	(313) 973-8300	Will not follow:	x
JAX:	(313) 973-1069	Will follow via Federal Express: _	
Date:	3/30/93		
	Number of P (Including	ages: _2 Cover Sheet)	
Comments:			
As per our pho	ne discussion.		

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, HI 48104

LCS Job Number: 519353-781-475 Report Date: 02-26-93

Site Location: Allied Paper - H.M. Holding

Project # LTI - JD7-2
Sample ID: Discharge
Sample Type: Water
Sample Date: 02-24-93
Analysis Date: 02-26-93

Sample Type: Water Collected By: 1ti

Sample Date: 02-24-93 Received Date: 02-25-93

Analysis Date: 02-26-93 LCS Control Number: 930475-01

PARAMETER	results ug/l	MDL ug/L	
PCB-1016	. nđ	0.1	
PCB-1221	nd	0.1	
PCB-1232	nd	0.1	
PCB-1242	nđ	0.1	
PCB-1248	0.18	0.1	
PCB-1254	nd	0.1	
PCB-1260	nd	0.1	
TOTAL PCB	0.18	, , , , , , , , , , , , ,	

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB

Only). SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA.

NOTES: MDL = Method Detection Limit, ug/L (parts-per-billion)

nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3125

Reviewed By rewword Date 02-26-93

THE CITY OF



NEW PHONE NUMBERS (616) 337-8157 FAX (616) 337-8699

DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harr.son Kalamazoo, Michigan 49007-2565 (616) 385-8157

March 11, 1993

Certified Mail P 242 168 464

Mr. Jon DeWitt, Attorney Varnum, Riddering, Schmidt, and Howlett Suite 800 171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Re: HM Holdings - Allied Paper Dewatering Lagoons

Dear Mr. DeWitt:

Reports have been received from the operators of the dewatering lagoon site, LTI Limno Tech, indicating that PCB has again been detected in the wastewater discharge to the Kalamazoo Water Reclamation Plant. Prior to this last detection of PCB, samples collected on August 23, 1992 and December 23, 1992 also contained PCB. The results of these samples indicate that PCB has been discharged from the site in violation of the Administrative Order and the Kalamazoo City Code of Ordinances.

On January 7, 1993 a sample was collected from the discharge to the Kalamazoo River from the Kalamazoo Water Reclamation Plant which contained detectable levels of PCBs. This discharged caused the Kalamazoo Water Reclamation Plant to be in violation of its NPDES Permit. HM Holdings may be held responsible for any enforcement actions or damages received by the City of Kalamazoo as a result of this violation.

Therefore, permission to discharge from the dewatering lagoon site to the Kalamazoo Water Reclamation Plant is hereby suspended. Any violation of this suspension will result in the permanent termination of wastewater service to the site. The suspension shall remain in effect until further written notice.

We will consider proposals for modifications to the pretreatment system which would eliminate the potential for PCB to be present in the discharge. Proposals may be submitted to the Industrial Services Supervisor at the Kalamazoo Water Reclamation Plant.

Mr. Jon DeWitt March 11, 1993 Page 2

We sincerely hope that a solution to this situation can be found and that operations at your site can be resumed. Please feel free to contact me at (616) 337-8228 if you wish to discuss this matter.

1

Sincerely,

Kenneth P. Collard Public Utilities Director

KPC/km

c:

- G. Peterson LTI
- R. Amundson
- R. Cinabro
- B. Merchant
- T. Meulenberg
- B. Minsley
- K. Mottinger

file

P 242 168 464

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED

NOT FOR INTERNATIONAL MAIL

(See Reverse)

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April 27, 1993

Mr. Kent Mottinger Industrial Services Supervisor City of Kalamazoo Department of Public Utilities Water Reclamation 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc.,- Allied Paper Dewatering Lagoons

Dear Mr. Mottinger:

On behalf of HM Holdings, Inc.,/Allied Paper, Inc., (Allied), this letter presents a proposal for modifications to the Allied HRDL water pretreatment system. This proposal is being submitted for your review and approval in accordance with Mr. Collard's letter dated March 11, 1993, to Mr. Jon F. DeWitt, counsel for Allied. The proposed modifications summarized herein should eliminate the potential for PCBs to be present in the discharge. We are hopeful that you will find that the proposed modifications meet the City's requirements, and will allow the City to rescind the suspension of the permit to discharge.

The lagoon levels have not yet reached emergency levels, but we have just about exhausted the emergency reserve storage capacity. Therefore, we would sincerely appreciate your response to this proposal as soon as it is reasonably possible. We estimate that the system modifications could be completed by the beginning of next week, and therefore if the City's approval is granted, we would propose to begin discharging at the end of next week.

The major proposed system modification includes the installation of 20,000 gallon holding tanks to hold batches of treated effluent prior to discharge to the Kalamazoo Water Reclamation Plant (KWRP). Each batch will be sampled and analyzed for PCBs on a 24-hour turnaround basis. Once the laboratory results are received and indicate that PCBs have not been detected in the batch sample, the batch will be discharged to the KWRP. If the laboratory results indicate that PCBs are detected for the batch, the holding tank will be emptied back into the lagoons, and then pressure washed prior to receiving any subsequent batches. Since each batch is tested before it is discharged to the KWRP, it will be possible to monitor, control, and document that no measurable levels of PCBs have been discharged to the KWRP.

It is estimated that three days will be required to fill, sample, complete the PCB analysis, and then discharge each batch. Therefore, three holding tanks will be used in rotation in the daily operation of the treatment system. On any given day, while one tank is being filled, we will be awaiting PCB results for the water in the second, and the third will be discharging to the KWRP. Under this scenario, approximately 20,000 gallons of treated water will be discharged daily to the KWRP.

We expect that the water in the holding tanks will be well mixed due to the agitation of the influent jet and relatively small size of the tanks. Each sample for PCB analysis will be collected once the receiving tank is full, and therefore should be representative of the water for the entire 20,000 gallon batch. In accordance with the recent change in the MDNR guidance for acceptable detection limits (MERA Operational Memorandum #6, Rev. #2, Feb. 22, 1993) and consistent with the requirements of the permit, we propose that the laboratory use a detection limit of 0.2 ug/l for the PCB analyses.

The holding tanks will be pre-manufactured vinyl swimming pools installed northeast of the treatment plant, between the plant building and the Allied Type III landfill. A stabilized gravel foundation for the pools will be laid, and secondary containment for the tanks will be provided with earthen dikes surrounding the tanks. A culvert will provide drainage from the contained tank area to lagoon #4. The tanks will be inspected daily. All leaks will be repaired with vinyl patches as soon as they are identified.

Several pilot studies were conducted in March and April 1993 to evaluate other system modifications that could be implemented to minimize the potential for the detection of PCBs in the treated effluent. Although additional pilot studies will be performed over the course of the next month to evaluate other possible system changes (e.g., addition of polymer coagulants to facilitate solids' removal), the following modifications to the system will be implemented immediately. The pilot study results indicate that these system changes should effectively remove PCBs from the influent, and therefore, we expect that with these changes, each treated batch will have non-detectable PCB concentrations.

Intake - The floating intake has been replaced with a media filter intake. The media in the intake is a mixture of sand and granular activated carbon.

Pre-filtration system - Two basket filters will be added to the pre-filtration system. The modified system will consist of two sets of parallel filters connected in series. The first set of filters will contain 15-20 mesh filter bags. The second set of filters will contain 5-10 u filter bags. The filter bags will be maintained by pressure washing on site and/or replacement.

Granular Activated Carbon (GAC) Units - No systematic changes will be made to the two stage GAC units. However, operationally, the frequency of backwashing will be increased to twice monthly, or as necessary as determined from operational parameters (turbidity, pressure changes, etc.). In addition, air injection will be added to the backflush cycle to float and agitate the carbon beds, and thereby provide a more vigorous backflush that will remove trapped sediment particles.

Post-filtration system - Two parallel basket filters will be added to the system between the effluent of the second carbon unit and the holding tanks. The filters will contain 1-3 u filter bags and will be maintained in the same manner as the prefilters.

We are confident that the above system changes will prevent any further possible releases of PCBs to the KWRP. We appreciate your consideration of this proposal, and look forward to receiving your comments and/or approval.

Should you have any questions, please don't hesitate to call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/smv

cc: Jon F. DeWitt
James Werling
Rob Markwell

Rob Markwell Bruce Merchant Tim Meulenberg Bob O'Day



NEW PHONE NUMBERS (616) 337-8157 FAX (616) 337-8699

DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N Harrison Kalamazoo, Michigan 49007-2565 (616) 385-8157

May 3, 1993

Certified Mail P 242 167 650

Mr. Jon Dewitt, Attorney Varnum, Riddering, Schmidt, and Howlett Suite 800 171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Re: HM Holdings - Allied Paper Dewatering Lagoons

Dear Mr. DeWitt, Attorney:

LTI-Limno-Tech, Inc, on behalf of HM Holdings, Inc./Allied Paper, Inc, has presented us with a proposal for modifications to the Allied HRDL pretreatment system in a letter dated April 27, 1993. We have reviewed the proposal and agree that it appears to contain measures necessary to eliminate the possibility of PCB discharge to the Kalamazoo Water Reclamation Plant. We are willing to work with the company in their effort to regain authorization to discharge.

Conditional approval is being granted to resume discharges of treated water from the site to the Kalamazoo Water Reclamation Plant. The conditions are that the plan presented in LTI-Limno-Tech's letter of April 27, 1993 will be implemented in that:

- 1. All water will be run through the pretreatment system and held in a tank.
- 2. The tank's contents must be thoroughly mixed and a representative sample collected for Total PCB analysis.
- 3. If the analysis indicate that PCB is not present in detectable concentrations the batch may be discharged to the sanitary sewer system. The detection limit used shall not exceed 0.2 ug/l.
- 4. Under no condition shall a batch containing PCB be discharged.
- 5. A log of each batch and analysis shall be kept. The log shall contain the date the batch was sampled, results of the sampling, the date it was discharged, and whether it was

Mr. Jon DeWitt, Attorney May 3, 1993 Page 2 of 2

discharged to the Kalamazoo Water Reclamation Plant or returned to the lagoons.

6. A monthly report containing the information in number 5 plus the total volume discharged for the month shall be provided to the Kalamazoo Water Reclamation Plant, Industrial Services Section. The report shall be due by the tenth day of the following month.

Your efforts to develop a plan which protects the interests of all involved are appreciated.

Please contact the Industrial Services Supervisor at 337-8715 to work out the details regarding the resumption of wastewater discharge.

Sincerely,

Kenneth P. Collard

Public Utilities Director

De P. C.DO

KPC/km

c: G. Peterson - LTI

R. Amundson

R. Cinabro

B. Merchant

T. Meulenberg

B. Minsley

K. Mottinger

242 167 650 RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED

NOT FOR INTERNATIONAL MAIL

(See Reverse)

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DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 385-8157

September 13, 1991

Mr. Jon DeWitt, Attorney Varnum, Riddering, Schmidt, and Howlett Suite 800 171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Re: Administrative Order for HM Holdings, Incorporated dated September 13, 1991

Dear Mr. DeWitt:

Enclosed please find an Administrative Order that has recently been issued to HM Holdings, Incorporated. This order is the main document used by the City of Kalamazoo Department of Public Utilities to adequately control and regulate what is discharged by your facility to the sanitary sewer. Please read this Order and all referenced documents carefully and thoroughly. Compliance with this Order is a necessary condition of receiving wastewater service. Also enclosed are copies of the City of Kalamazoo Sewer Use Ordinance and Sewer Use Regulations #1-89 and #91-1. These documents detail additional specific discharge requirements and regulations (see especially Section 28-10 of the Ordinance for a list of prohibited discharges) and are referenced in the Order.

Enclosed are forms to be used to fulfill your self-monitoring reporting requirements and instructions for their use.

Please call me at 337-8715 if you have any questions regarding this letter or the enclosed documents.

Sincerely,

Kent Mottinger

Industrial Services Supervisor

KM:rjg\ipp\ao\hmh

c: O. Loen

A. Blatchford

R. O'Day

B. Merchant

file

CITY OF KALAMAZOO WASTEWATER SERVICE

ADMINISTRATIVE ORDER

User Name: HM Holdings, Incorporated

Address: Varnum, Riddering, Schmidt, and Howlett

Suite 800

171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Phone: (616) 459-4186

Contact Person: Jon DeWitt, Attorney

Date of Issue: September 13, 1991
Date of Reissue: September 13, 1992

Discharge Standards:

Specific limits on pollutants discharged to the sanitary sewer are presented in Attachment A.

Compliance Schedule:

As required, areas of non-compliance shall be resolved on the specified timetable indicated in Attachment B.

Monitoring and Reporting:

User shall install and maintain necessary monitoring systems and pretreatment equipment. User shall perform any required waste stream sampling and analyses. Self-monitoring reports may also be required. Specifics for each of these items are given in Attachment C.

Notification of Process Changes: Notification must be given to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any anticipated process changes that may substantially affect wastewater flow or quality. Process changes are defined as major plant expansions or modifications, which result in the discharge of new pollutants or the introduction of higher quantities of existing pollutants. All process changes that could significantly increase flow or significantly lower wastewater quality must be approved by the Department of Public Utilities prior to implementation.

Notification of Slug Discharges: Immediate notification must be given to the Department of Public Utilities of any spills, slug loads or upsets in pretreatment processes that affect wastewater discharge to the sanitary sewer. You must monitor your processes and activities to assure prompt detection of any problems. The telephone number to call is 337-8157, day or night. A written report, explaining the event, and what steps are being taken to prevent future occurrences, must be submitted to the Industrial Services Supervisor within three (3) working days following the event. The reporting address is the Kalamazoo Water Reclamation Plant, 1415 N. Harrison Street, Kalamazoo, MI 49007-2565.

Administrative Order September 13, 1991 Page 2.

Notification of Violations: If sampling performed by the User indicates a violation of any local, state or federal discharge limitations, the User must notify the Industrial Services Supervisor at the City of Kalamazoo Department of Public Utilities within 24 hours of becoming aware of the violation. The User must also repeat the sampling and analysis, and submit the results from this repeat analysis to the Industrial Services Supervisor within 30 days after becoming aware of the violation.

Monitoring Authority:

User shall allow access by authorized Utilities Department staff members 1) at all reasonable times whether or not discharge is occurring, and 2) at any time when there is reason to believe a discharge or violation is occurring, for inspecting all operations and records, copying records, and observing and sampling wastewater discharges.

General:

This Order applies only to the aforementioned identified User and shall not be transferred to another User.

The User is required to retain all records pertaining to its wastewater discharge for a minimum of three (3) years.

This Order does not relieve the User of its obligations under any local, state, or Federal statues, ordinances, rules, or regulations. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of Ordinances (Chapter 28), and in any associated Sewer Use Regulations. If the User is not located in the City of Kalamazoo, reference should also be made to the ordinance of the municipality in which the User is located.

This Order, or any part thereof, is subject to change at the sole discretion of the City of Kalamazoo.

Violation of this Order or governing ordinances, statues, rules or regulations may cause the User's name and address to be published in a local newspaper, in accordance with procedures outlined in applicable Federal regulations.

Spill Prevention: The User shall install any equipment or devices necessary to prevent any spillage or leakage of process solutions or chemicals from entering the sanitary sewer. Additionally, the User shall store bulk chemicals and toxic wastes in such a manner as to prevent any accidental discharge to the sanitary sewer in the event of a spill.

Administrative Order September 13, 1991 Page 3.

Termination of Service: The Department of Public Utilities can take immediate action to terminate service and/or halt discharges if the User's discharge poses a significant threat to the City's wastewater collection or treatment system, the environment, or human health or welfare.

Liability: The User is liable for all damage which its discharge does to the City of Kalamazoo's wastewater collection or treatment system if that damage is caused by a violation of this Order or any applicable statue, ordinance, regulation or rule.

Compliance with this Order is a necessary condition of receiving wastewater service.

The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate.

Orlin K. Loen, P.E.

Director of Public Utilities

rlin K. Loen

CITY OF KALAMAZOO WASTEWATER SERVICE

ADMINISTRATIVE ORDER

ATTACHMENT "A": DISCHARGE LIMITATIONS

User Name:

HM Holdings, Incorporated

Address:

Varnum, Riddering, Schmidt, and Howlett

Suite 800

171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Contact Person:

Jon DeWitt, Attorney

Date of Issue:
Date of Reissue:

September 13, 1991 September 13, 1992

I. Local Discharge "End-of-Pipe" Limitations:

These limitations apply to all wastewater discharge(s) from your facility to the sanitary sewer. Please refer to Attachment "C" for the specific "end-of-pipe" sample location(s), and to the City of Kalamazoo Sewer Use Ordinance, Chapter 28, Section 28-10 (or applicable ordinance of the municipality where the facility is located) for general prohibited discharge limitations.

POLLUTANT		DAILY MAXIMUM CONCENTRATION LIMIT <u>MILLIGRAMS PER LITER (mg/L)</u>
Cadmium	(Cd)	0.040
Chromium	(Cr)	4.67
Copper	(Cu)	2.23
Lead	(Pb)	0.110
Nickel	(Ni)	1.59
Zinc	(Zn)	5,30
Total Cyanide	(CN)	0.250
Total PCB		prohibited discharge
Mercury	(Hg)	prohibited discharge
На		6.2 - 9.8 S.U.

II. Process-specific Discharge Limitations:

Discharge from this facility is to be strictly for the purpose of maintaining dewatering lagoons below overflow levels. Discharge from the facility for any other purpose may result in immediate termination of service.

CITY OF KALAMAZOO WASTEWATER SERVICE

ADMINISTRATIVE ORDER

ATTACHMENT "B": COMPLIANCE SCHEDULE

User Name:

HM Holdings, Incorporated

Address:

Varnum, Riddering, Schmidt, and Howlett

Suite 800

171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Contact Person:

Jon DeWitt, Attorney

Date of Issue:

September 13, 1991

Date of Reissue:

September 13, 1992

PRETREATMENT COMPLIANCE SCHEDULE:

User shall install a flow meter to measure all discharges to the sanitary sewer system. The meter must be independent of the adjacent clarifier system. The meter must be installed prior to the commencement of discharge.

CITY OF KALAMAZOO WASTEWATER SERVICE ADMINISTRATIVE ORDER

ATTACHMENT "C": MONITORING REQUIREMENTS

User Name:

HM Holdings, Incorporated '

Address:

Varnum, Riddering, Schmidt, and Howlett

Suite 800

171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Contact Person:

Jon DeWitt, Attorney September 13, 1991

Date of Issue:
Date of Reissue:

September 13, 1992

I. Sample Location:

Dewatering Lagoons, Pretreatment System Discharge.

Sample code: HMH

II. Monitoring and Reporting: Requirements and Frequency

<u>Monitoring Facilities</u>: User shall maintain necessary flow monitoring equipment. User may also be required, at the discretion of the City of Kalamazoo, Department of Public Utilities, to install and maintain automatic sampling equipment.

<u>Self-Monitoring</u>: User shall perform the following sampling and analyses: An adequate number of samples shall be collected to ensure that the discharge does not violate limitations set forth in this Administrative Order. As a minimum, one (1) sample shall be collected during the months of June and December and analyzed for all the listed regulated pollutants. In addition, monthly samples must be collected and analyzed for Total PCB's. The samples must be composite samples, where required, and must be representative of the process waste discharge to the sanitary sewer. All sampling and analyses shall be conducted according to EPA-approved methods (see: 40 CFR Parts 136 and 403).

Reporting Requirements: User shall fulfill the following reporting requirements:

<u>Self-Monitoring Reports</u>: Monthly reports shall be submitted on PCB sampling results. The reports shall be due by the tenth of the month following the reporting period. The first report shall be for October, 1991.

Self-Monitoring reports shall be submitted semi-annually for all the listed regulated pollutants. The semi-annual reports are due January 10th and July 10th each year. The first reporting period shall be for July 1, 1991 through December 31, 1991.

At a minimum the reports shall contain:

- a) Measured or estimated average daily flows and maximum flow for the period.
- b) Results of all sampling performed by User.

<u>Secondary Containment Monitoring</u>: User shall maintain all valves or drain lines from Maintenance Buildings in a closed position at all times.

KALAN ZOO WATER RECLAMATI PLANT INDUSTRIAL USER SELF-MONITORING REPORT

(1) Facility:	HM Holdings, Incorporated Dewatering lagoons site at old Allied Paper site				(2) Due Date: November 10, 1991				
	Kalamazoo, Mi		nu Allieu i apei s	116	(3) Sample Point Code: HMH				
4) Location:	Dewatering La	goons, Pretrea	atment System D	Pischarge					
(5) Purpose f	or Sampling:	☐ Violation	eriodic report. Po Resampling						
(6) Sampling	Method:	·							
(7) Date and	Time of Compos	site Samples:	Start:		End:				
(8) Date and	Time of Grab Sa	amples:							
(9)			RES	SULTS					
Parameter	Value	<u>Units</u>	Sample Type*	Parameter	<u>Value</u>	<u>Units</u>	Sample Type*		
РСВ, Т									
									
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* Sample Typ	e: G = Greb sample	e C = Composi	te Sample						
(10) Name o	f Laboratory				(Attac	ch copies of	Laboratory Results		
(11) Flow: A	Average Daily			N	Maximum Daily				
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						Date:			

Mail to:

INDUSTRIAL PRETREATMENT COORDINATOR
Kalamazoo Water Reclamation Plant
1415 N. Harrison
Kalamazoo, MI 49007-2565

KALAM ZOO WATER RECLAMATION PLANT INDUSTRIAL USER SELF-MONITORING REPORT

(1) Facility:	HM Holdings,		l : old Allied Paper si	te	(2) Due Date	e: December 1	0, 1991
	Kalamazoo, M				(3) Sample I	Point Code: HI	ΜН
(4) Location:	Dewatering L	agoons, Pretr	eatment System D	ischarge			
(5) Purpose fo	or Sampling:	□ Violation	periodic report. Pon Resampling				
(6) Sampling	Method:	•					
(7) Date and			:: Start:				
(8) Date and	Time of Grab S	Samples:					
(9)			RES	SULTS			
Parameter	<u>Value</u>	<u>Units</u>	Sample Type *	Parameter	<u>Value</u>	<u>Units</u>	Sample Type *
РСВ, Т							
			·				

* Sample Type	o: G = Grab samp	ole C = Compo					
(10) Name of	Laboratory		·		(Att	ach copies of l	_aboratory Results
					Maximum Daily		
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Signature:			Title:			Date:	

INDUSTRIAL PRETREATMENT COORDINATOR
Kalamazoo Water Reclamation Plant
1415 N. Harrison
Kalamazoo, MI 49007-2565

Mail to:

KALAM 700 WATER RECLAMATION PLANT INDUSTRIAL USER SELF-MONITORING REPORT

(1) Facility:	HM Holdings, Incorporated Dewatering lagoons site at old Allied Paper site			iita	(2) Due Date: January 10, 1992		
	Kalamazoo, M	-	. Old Allied I apel s	ii.e	(3) Sample P	oint Code: H	мн
(4) Location:	Dewatering La	agoons, Pretr	eatment System [Discharge ,			
(5) Purpose f	or Sampling:	☐ Violation	periodic report. P n Resampling	.	-	oer 31, 1991	
(6) Sampling	Method:						
(7) Date and	Time of Compo	site Samples	: Start:		End:		
(8) Date and	Time of Grab S	amples:					
(9)			RES	SULTS			
<u>Parameter</u>	<u>Value</u>	<u>Units</u>	Sample Type*	<u>Parameter</u>	<u>Value</u>	<u>Units</u>	Sample Type*
Cadmium, T		· · · · · · · · · · · · · · · · · · ·	-	Mercury, T			
Chromium, T		***************************************	-	Cyanide, T			•
Copper, T		*************		pН			
Lead, T				РСВ, Т			
Nickel, T							
Zinc, T							•
* Sample Typ	e: G = Grab sampl	e C = Compo	osite Sample				
(10) Name o	f Laboratory				(Atta	ach copies of	Laboratory Results
(11) Flow: A	Flow: Average Daily Max						
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						Date:	

Mail to:

INDUSTRIAL PRETREATMENT COORDINATOR
Kalamazoo Water Reclamation Plant
1415 N. Harrison
Kalamazoo, MI 49007-2565

Directions for Industrial User Self-Monitoring Report Form

These directions are being provided to assist you in the preparation of Self-Monitoring Reports submitted to the City of Kalamazoo Water Reclamation Plant (KWRP) for the purpose of complying with the requirements detailed in 40 CFR 403.12 and the control document issued to your facility by KWRP.

Item by Item Instructions:

- 1. Name and address of the company.
- 2. The date the report is due to KWRP. Over-due reports are considered violations.
- 3. This is a three digit code assigned by KWRP to identify the specific sampling point.
- 4. The description of the location of the specific sample point.
- 5. Purpose for sampling. Check the appropriate box. If it is a routine periodic report specify the reporting period. Example: July December, 1991. If it is a violation resample, make sure the violation has been reported to KWRP, Industrial Services Section.
- 6. Sampling method. Describe how the sample was collected. Example: "Composite samples collected with automatic sampler, grab samples with bottle on a string."
 - Composite samples are to be collected for all parameters except for certain parameters which must be grab sampled. These exceptions include: pH, Cyanide, Grease and Oil, and volitile organics. The composite samples must be representative of the discharge for a 24 hour period. The composite samples must consist of a minimum of four discrete aliquots collected evenly throughout the operating day.
- 7. Date and Time of Composite Samples. The "start" time is the time when the first aliquot was collected. The "end" time is when the last aliquot was collected.
- 8. Date and Time of Grab Samples. Record when the grab samples were collected.
- 9. Results. Enter the analytical result for the various tests, the units of measurement, and sample type (grab or composite).
- 10. Name of Laboratory. If a commercial laboratory was used, enter its name here. Attach a copy of the report the lab provided you.
- 11. Flow. Enter the average daily flow for the period covered by this report. Also, enter the maximum daily flow which occurred during the period.
- 12. Signatory Requirements. The report must be signed by a responsible corporate officer, general partner, proprietor, or duly authorized representative. A "duly authorized representative" can only sign if a written authorization has been submitted to KWRP. See 40 CFR Part 403.12 (I) for further details.

Page 2 of 2

Mailing

Address the report to:

Industrial Pretreatment Coordinator

City of Kalamazoo Water Reclamation Plant

1415 North Harrison

Kalamazoo, MI 49007-2565

Discharge Violations

If sampling indicates a violation, the facility must notify Industrial Services at KWRP within 24 hours of becoming aware of the violation. Within 30 days the sampling and analysis must be repeated for the parameters in violation and the results submitted to KWRP. More than one sample of the parameter(s) in violation may be required. Contact the Industrial Pretreatment Coordinator for the specific resampling requirements for your facility.

KWRP Contacts

Industrial Pretreatment Coordinator

337-8658

KWRP General Number

337-8157

You may also contact the Industrial Pretreatment Inspector who has been involved with your facility.

RECOMMENDED COMMERCIAL LABORATORIES

KAR Laboratories, Incorporated 4425 Manchester Avenue Kalamazoo, MI 49001

Phone: 616-381-9666 Contact: William Bouma, PH.D.

FECL (Fire & Environmental Consulting Laboratories), Inc.

One East Complex 1451 East Lansing Drive Suite 222 East Lansing, MI 48823

Phone: 517-332-0167 Contact: Michael G. Goergen

EDI Engineering & Science 611 Cascade West Parkway, SE Grand Rapids, MI 49506-2179

Phone: 616-942-9600 Contact: John P. Dullaghan, Manager

Canton Analytical Laboratory, Inc. 153 Elder Street Ypsilanti, MI 48197

Phone: 313-483-7430 Contact: Ron Yahr, General Manager

> Prein & Newhoff Laboratory 3000 E. Beltline, N.E. Grand Rapids, MI 49505

Phone: 616-364-8491 Contact: Jane Hoch, Lab Director

CITY OF KALAMAZOO

RESOLUTION NO. 91-53

A RESOLUTION ADOPTING A SEWER USE REGULATION PURSUANT TO ORDINANCE NO. 28-18 OF THE MUNICIPAL CODE OF KALAMAZOO PERTAINING TO THE LIMITATION OF DISCHARGE OF CERTAIN POLLUTANTS INTO THE WASTEWATER TREATMENT SYSTEM

	of the City Commission of the City held on April 29, local time at the City Hall.
PRESENT, Commissioners:	Ferraro, Haan, LaForge, Lipsey, Straits, Vice Mayor Moore, Mayor Annen
ABSENT, Commissioners:	None
	on 28-18 of the Municipal Code of the City of Kalamazoo the vered with the authority to issue regulations pertaining to the
operation of the wastewater treatmen	es Department of the City of Kalamazoo in conjunction with the it system and as required by its National Pollution Discharge has instituted an Industrial Pretreatment Program; and
-	th its NPDES permit the Industrial Pretreatment Program must f certain pollutants that are harmful to the environment; and
	s are not amenable to treatment in the Water Reclamation Plant ated into the environment requiring limits to be placed upon the se pollutants into the wastestream;
NOW, THEREFORE, BE IT	RESOLVED THAT
establishing pollutant discharge limits	ties shall adopt and issue the attached sewer use regulation for untreatable pollutants as directed by section 28-18 of the amazoo. This resolution shall be effective upon the date of ity Commission.
The above resolution was of supported by CommissionerStra	· · · · · · · · · · · · · · · · · · ·

SEWER USE REGULATION NO. 91-1

In accordance with the City of Kalamazoo Industrial Pretreatment Program and the Non-domestic User Control Program pollutant discharge limits are established as follows:

POLLUTANTS	DAILY MAXIMUM CONCENTRATION LIMIT (mg/L)
	0.040
Cadmium (Cd)	0.040
Chromium (Cr)	4.670
Copper (Cu)	2.230
Lead (Pb)	0.110
Nickel (Ni)	1.590
Zinc (Zn)	5.300
Total Cyanide (CN)	0.250

Total mercury and total PCB's are pollutants completely prohibited from being discharged into the wastewater treatment system unless an industry exemption has been recognized by the Director of Public Utilities.

Issued this 29th day of April 1991.

Orlin K. Loen, Director

Public Utilities

AYES, Commissioners: Ferraro, Haan, LaForge, Lipsey, Straits, Vice Mayor Moore, Mayor Annen

NAYS, Commissioners: None

RESOLUTION DECLARED ADOPTED.

CERTIFICATE

The foregoing is a true and complete copy of a resolution adopted by the City Commission of the City of Kalamazoo at a regular meeting held on <u>April 29</u>, 1991. Public notice was given and the meeting was conducted in full compliance with the Michigan Open Meetings Act (PA 267, 1976). Minutes of the meeting will be available as required by said Act.

Nancy A. Collins, City Clerk

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RECEIPT FOR CERTIFIED MAIL

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NEW PHONE NUMBERS (616) 337-8157 FAX (616) 337-8699 DEPARTMENT OF PUBLIC UTILITIES

Water Rec'amation 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 385-8157

November 30, 1992

Certified Mail #P 242 168 445

Mr. Jon DeWitt, Attorney Varnum, Riddering, Schmidt, and Howlett -Suite 800 171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Re: Administrative Order for HM Holdings, Incorporated dated November 30, 1992

Dear Mr. DeWitt:

Enclosed please find an Administrative Order that has been issued to HM Holdings, Incorporated to replace the previous Administrative Order issued September 13, 1991. This order is the main document used by the City of Kalamazoo Department of Public Utilities to adequately control and regulate what is discharged by your facility to the sanitary sewer. Please read this Order and all referenced documents carefully and thoroughly. Compliance with this Order is a necessary condition of receiving wastewater service. Also enclosed are copies of the City of Kalamazoo Sewer Use Ordinance and Sewer Use Regulations #1-89 and #91-1. These documents detail additional specific discharge requirements and regulations (see especially Section 28-10 of the Ordinance for a list of prohibited discharges) and are referenced in the Order.

Please call me at 337-8715 if you have any questions regarding this letter or the enclosed documents.

Sincerely,

Kent Mottinger

Industrial Services Supervisor

KM:rjg\ipp\ao\hmh2

Hent mothing

c: R. Amundson

R. Cinabro

K. Collard

B. Merchant

file

CITY OF KALAMAZOO WASTEWATER SERVICE

ADMINISTRATIVE ORDER

User Name:

HM Holdings, Incorporated

Address:

Varnum, Riddering, Schmidt, and Howlett

Suite 800

171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Phone:

(616) 459-4186

Contact Person: Date of Issue: Jon DeWitt, Attorney November 30, 1992

Date of Reissue:

November 30, 1993

Discharge Standards:

Specific limits on pollutants discharged to the sanitary sewer are presented in Attachment A.

Compliance Schedule:

As required, areas of non-compliance shall be resolved on the specified timetable indicated in Attachment B.

Monitoring and Reporting:

User shall install and maintain necessary monitoring systems and pretreatment equipment. User shall perform any required waste stream sampling and analyses. Self-monitoring reports may also be required. Specifics for each of these items are given in Attachment C.

Notification of Process Changes: Notification must be given to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any anticipated process changes that may substantially affect wastewater flow or quality. Process changes are defined as major plant expansions or modifications, which result in the discharge of new pollutants or the introduction of higher quantities of existing pollutants. All process changes that could significantly increase flow or significantly lower wastewater quality must be approved by the Department of Public Utilities prior to implementation.

Notification of Slug Discharges: Immediate notification must be given to the Department of Public Utilities of any spills, slug loads or upsets in pretreatment processes that affect wastewater discharge to the sanitary sewer. You must monitor your processes and activities to assure prompt detection of any problems. The telephone number to call is 337-8157, day or night. A written report, explaining the event, and what steps are being taken to prevent future occurrences, must be submitted to the Industrial Services Supervisor within three (3) working days following the event. The reporting address is the Kalamazoo Water Reclamation Plant, 1415 N. Harrison Street, Kalamazoo, MI 49007-2565.

Administrative Order November 30, 1992 Page 2.

Notification of Violations: If sampling performed by the User indicates a violation of any local, state or federal discharge limitations, the User must notify the Industrial Services Supervisor at the City of Kalamazoo Department of Public Utilities within 24 hours of becoming aware of the violation. The User must also repeat the sampling and analysis, and submit the results from this repeat analysis to the Industrial Services Supervisor within 30 days after becoming aware of the violation.

Monitoring Authority:

User shall allow access by authorized Utilities Department staff members 1) at all reasonable times whether or not discharge is occurring, and 2) at any time when there is reason to believe a discharge or violation is occurring, for inspecting all operations and records, copying records, and observing and sampling wastewater discharges.

General:

This Order applies only to the aforementioned identified User and shall not be transferred to another User.

The User is required to retain all records pertaining to its wastewater discharge for a minimum of three (3) years.

This Order does not relieve the User of its obligations under any local, state, or Federal statues, ordinances, rules, or regulations. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of Ordinances (Chapter 28), and in any associated Sewer Use Regulations. If the User is not located in the City of Kalamazoo, reference should also be made to the ordinance of the municipality in which the User is located.

This Order, or any part thereof, is subject to change at the sole discretion of the City of Kalamazoo.

Violation of this Order or governing ordinances, statues, rules or regulations may cause the User's name and address to be published in a local newspaper, in accordance with procedures outlined in applicable Federal regulations.

Spill Prevention: The User shall install any equipment or devices necessary to prevent any spillage or leakage of process solutions or chemicals from entering the sanitary sewer. Additionally, the User shall store bulk chemicals and toxic wastes in such a manner as to prevent any accidental discharge to the sanitary sewer in the event of a spill.

Administrative Order November 30, 1992 Page 3.

Termination of Service: The Department of Public Utilities can take immediate action to terminate service and/or halt discharges if the User's discharge poses a significant threat to the City's wastewater collection or treatment system, the environment, or human health or welfare.

Liability: The User is liable for all damage which its discharge does to the City of Kalamazoo's wastewater collection or treatment system if that damage is caused by a violation of this Order or any applicable statue, ordinance, regulation or rule.

Compliance with this Order is a necessary condition of receiving wastewater service.

The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate.

Kenneth P. Collard

Director of Public Utilities

H. (Illa

ADMINISTRATIVE ORDER

ATTACHMENT "A": DISCHARGE LIMITATIONS

User Name:

HM Holdings, Incorporated

Address:

Varnum, Riddering, Schmidt, and Howlett

Suite 800

171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Contact Person:

Jon DeWitt, Attorney November 30, 1992

Date of Issue:
Date of Reissue:

November 30, 1993

I. Local Discharge "End-of-Pipe" Limitations:

These limitations apply to all wastewater discharge(s) from your facility to the sanitary sewer. Please refer to Attachment "C" for the specific "end-of-pipe" sample location(s), and to the City of Kalamazoo Sewer Use Ordinance, Chapter 28, Section 28-10 (or applicable ordinance of the municipality where the facility is located) for general prohibited discharge limitations.

POLLUTANT		MILLIGRAMS PER LITER (mg/L)
Cadmium	(Cd)	0.040
Chromium	(Cr)	4.67
Copper	(Cu)	2.23
Lead	(Pb)	0.110
Nickel	(Ni)	1.59
Zinc	(Zn)	5.30
Total Cyanide	(CN)	0.250
Total PCB *		prohibited discharge
Mercury *	(Hg)	prohibited discharge
рH		6.2 - 9.8 S.U.

^{*} The detection limit shall not exceed 0.2 ug/L for PCB and 0.5 ug/L for mercury unless higher levels are appropriate due to sample matrix interferences.

II. Process-specific Discharge Limitations:

Discharge from this facility is to be strictly for the purpose of maintaining dewatering lagoons below overflow levels. Discharge from the facility for any other purpose may result in immediate termination of service.

ADMINISTRATIVE ORDER

ATTACHMENT "B": COMPLIANCE SCHEDULE

User Name:

HM Holdings, Incorporated

Address:

Varnum, Riddering, Schmidt, and Howlett

Suite 800

171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Contact Person:

Jon DeWitt, Attorney November 30, 1992

Date of Issue:
Date of Reissue:

November 30, 1993

PRETREATMENT COMPLIANCE SCHEDULE:

(Reserved)

WASTEWATER SERVICE ADMINISTRATIVE ORDER

ATTACHMENT "C": MONITORING REQUIREMENTS

User Name:

HM Holdings, Incorporated

Address:

Varnum, Riddering, Schmidt, and Howlett

Suite 800

171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Contact Person:

Jon DeWitt, Attorney

Date of Issue:

November 30, 1992

Date of Reissue:

November 30, 1993

I. Sample Location:

Dewatering Lagoons, Pretreatment System Discharge.

Sample code: HMH

II. Monitoring and Reporting: Requirements and Frequency

<u>Monitoring Facilities</u>: User shall maintain necessary flow monitoring equipment. User may also be required, at the discretion of the City of Kalamazoo, Department of Public Utilities, to install and maintain automatic sampling equipment.

<u>Self-Monitoring</u>: User shall perform the following sampling and analyses: An adequate number of samples shall be collected to ensure that the discharge does not violate limitations set forth in this Administrative Order. As a minimum, one (1) sample shall be collected during the months of June and December and analyzed for all the listed regulated pollutants. In addition, a minimum of one sample per month must be collected and analyzed for Total PCB's. The samples must be composite samples, where required, and must be representative of the process waste discharge to the sanitary sewer. All sampling and analyses shall be conducted according to EPA-approved methods (see: 40 CFR Parts 136 and 403).

Reporting Requirements: User shall fulfill the following reporting requirements:

<u>Self-Monitoring Reports</u>: Monthly reports shall be submitted on PCB sampling results. The reports shall be due by the tenth of the month following the reporting period. Self-Monitoring reports shall be submitted semi-annually for all the listed regulated pollutants. The semi-annual reports are due January 10th and July 10th each year. The first reporting period shall be for July 1, 1991 through December 31, 1991.

At a minimum the reports shall contain:

- a) Measured or estimated average daily flows and maximum flow for the period.
- b) Results of all sampling performed by User.

<u>Secondary Containment Monitoring</u>: User shall maintain all valves or drain lines from Maintenance Buildings in a closed position at all times.

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N ADDRESS completed on the reverse side?	SENDER Complete items 1 and/or 2 for additional services Complete items 3 and 4a & b Print your name and address on the reverse of this form so the return this cerd to you Attach this form to the front of the mailpiece or on the back is does not permit Write Return Receipt Requested on the mailpiece below the article that the return Receipt Requested on the mailpiece was delivered a delivered The Return Receipt will show to whom the article was delivered a delivered ATTICLE Addressed to MS BILLIE S FLAHERTY HM, HOLDING INCORPORATED 436, SEVENTH AVENUE PITTSBURGH PA 15219	f space cle number nd the date 4a Art 4b Ser Greg Certi Expri	Consult postmaster for fee licle Number 1 484 1 1 4 VICE Type stered	you for using Return Receipt Service
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DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 337-8157 FAX (616) 337-8699

March 1, 1994

Ms. Billie S. Flaherty
H M Holding, Incorporated
436 Seventh Avenue
Pittsburgh, PA 15219

Dear Ms. Flaherty:

Enclosed please find an Individual Control Document that is being issued for your facility served by the Kalamazoo Water Reclamation Plant. This is the main document used by the City of Kalamazoo Department of Public Utilities to adequately control and regulate what is discharged to the sanitary sewer from the facility. The Individual Control Document replaces the Administrative Order previously issued. Please read this document and all referenced materials carefully and thoroughly. Compliance with this Individual Control Document is a necessary condition of receiving wastewater service. Also enclosed are copies of the City of Kalamazoo Sewer Use Ordinance and Sewer Use Regulations #1-89, #91-1, and #94-1. These documents detail additional specific discharge requirements and regulations (see especially Section 28-10 of the Ordinance for a list of prohibited discharges) and are referenced in the Individual Control Document.

Please feel free to call me at 337-8715 or talk with the Industrial Pretreatment Inspector for your facility if you have any questions regarding this matter.

Sincerely,

Kent Mottinger

Industrial Services Supervisor

Kent Milling

C:

R. Cinabro, COK

K. Collard, COK

J. DeWitt

file

User Name:

H M Holding, Incorporated

Address:

436 Seventh Avenue Pittsburgh, PA 15219

Site Name:

Allied Paper Dewatering Lagoons

Site Address:

Allied Paper Site Kalamazoo, MI

Date of Issue:

March 1, 1994

Expiration Date:

March 31, 1999

Individual Control Document

Table of Contents

Post Is Company	4
Part I: General	
Discharge Standards	
Compliance Schedule	
Monitoring And Reporting	
Effective Date and Expiration Date	2
Part II: Regulations and Requirements	3
Effect of Individual Control Document	3
Compliance with Applicable Law	3
Property Rights	
Non-transferability of Individual Control Document	
Reapplication And Continuance	
Duty To Reapply	
Continuation of Individual Control Document	
Inspection And Entry	
Reporting And Approvals	
Anticipated Process Changes Notification	
	4
Notification Of Changes Impacting Discharge Limits Developed Under the	-
Combined Wastestream Formula And Approval Of Changes	5
Notification Of Changes Potentially Requiring Flow Weighted Averaging	_
Discharge Limits	
Notification Of Changed Discharge (Non-Emergency Situation)	6
Notification Of Production Changes (If Applicable)	
Notification Of Potential Noncompliance	
Notification Of Slug Discharges	
Notification Of Violations	7
Baseline Monitoring Report, 90-Day Compliance Report And Other	
Federally Mandated Reports	
Duty To Provide Information	
Other Information	7
Telephone Numbers And Reporting Address	7
Signatory Requirements	8
Record Retention	8
Public Availability Of User Information	9
Proper Operation And Maintenance	9
Termination Of Service and Modification, Revocation Or Termination Of	
Individual Control Document	9
Termination Of Service	
Modification, Revocation Or Termination Of Individual Control	_
Document	9
Duty To Comply; Liability For Noncompliance	
Duty To Comply	
Penalties For Noncompliance	
Damages	
Public Notice Of Noncompliance	
Termination Of Individual Control Document	
Cessation Of User Discharge	11

Duty To Mitigate	1
Conservation Recovery Act	1
Spill Prevention	
Slug Discharge Control Plan	
Submission Of Draft Plan	
Revision Of Draft Plan	2
Compliance With Approved Plan	2
Authorized Kalamazoo Representatives	
Severability	
Part III: Discharge Limitations, Monitoring Locations And Reporting	
Local Discharge "End-Of-Pipe" Limitations	
Process-Specific Discharge "End-Of-Process" Limitations	
Discharge Prohibitions	
Discharge Points And Monitoring Facilities	
Self-Monitoring And Reporting	
Frequency and Sampling Requirements	
Reporting of Increased Monitoring Data	
Repeat Sampling When Violation Indicated	
Self-Monitoring Reports	
Other User Specific Monitoring and Reporting Requirements 1	7
Averaging Of Measurements	7
Dilution Prohibition	
Combined Wastestream Formula	7
User To Derive Alternative Discharge Limits Using Combined	
Wastestream Formula	
Record-Keeping	8
Part IV. Compliance Cabadula	0
Part IV: Compliance Schedule	
Action Required	
Effect Of Compliance Schedule	
Inclusion Of Compliance Schedule Discretionary	
Compliance With Schedule Milestones Not A Defense	
Compliance With Federal Categorical Standards	U.
Part V: Definitions	11

Individual Control Document Part I: General

User Name:

H M Holding, Incorporated

Address:

436 Seventh Avenue Pittsburgh, PA 15219

Phone:

412-227-2515

Contact:

Ms. Billie S. Flaherty

Site Name:

Allied Paper Dewatering Lagoons

Site Address:

Allied Paper Site Kalamazoo, MI

Phone:

616-336-6000

Contact: Mr. Jon DeWitt

In accordance with the provisions of Kalamazoo Code 28-1 et seq., Michigan Administrative Code R.323.2162 et seq. and 40 CFR Chapter 1, Subchapter N, H M Holding, Incorporated hereafter referred to as "User" which is synonymous with "Significant Industrial User" for the purpose of this document is authorized to discharge nondomestic wastewater from the above identified facility and through the outfalls identified herein into the wastewater system of the City of Kalamazoo in accordance with the terms and conditions set forth in this Individual Control Document.

A. Discharge Standards

Specific limits on applicable pollutants discharged to the sanitary sewer are presented in Part III.

B. <u>Compliance Schedule</u>

As required, areas of noncompliance or a time-frame to achieve compliance with new requirements, shall be resolved on the specified timetable included in Part IV.

C. Monitoring And Reporting

User shall install and maintain necessary monitoring systems and pretreatment equipment. User shall perform any required wastestream sampling and analyses. Additional requirements pertaining to monitoring and reporting of monitoring results are set forth in Part II and Part III.

D. Effective Date and Expiration Date

DP. COL

This Individual Control Document is effective as of April 1, 1994 and authorizes User's discharge, subject to the conditions set forth in Parts I, II, III, IV, and V herein, until midnight, March 31, 1999.

Kenneth P. Collard

Director of Public Utilities

Individual Control Document Part II: Regulations and Requirements

User Name:

H M Holding, Incorporated

Address:

436 Seventh Avenue Pittsburgh, PA 15219

Phone:

412-227-2515

Contact:

Ms. Billie S. Flaherty

Site Name:

Allied Paper Dewatering Lagoons

Site Address:

Allied Paper Site

Kalamazoo, Mi

Phone: Contact:

616-336-6000 Mr. Jon DeWitt

A. Effect of Individual Control Document

1. Compliance with Applicable Law

This Individual Control Document does not relieve the User of its obligations under any local, state, or federal statutes, ordinances, rules, or regulations. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of Ordinances (Chapter 28), and in any associated Wastewater Use Regulations. User shall comply with all applicable federal, state, and local pretreatment laws, regulations, rules, ordinances, and other pretreatment requirements, including those that may become effective during the term of this Individual Control Document.

2. Property Rights

This Individual Control Document does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to persons or property, invasion of other private rights, or any infringement of federal, state or local laws, regulations, rules, ordinances, or other requirements.

3. Non-transferability of Individual Control Document

This Individual Control Document applies only to the aforementioned identified User and shall not be transferred to another User. A copy of this Individual Control Document must be provided to any new owner/operator of the User's

facility prior to the transfer of ownership and/or operator responsibility. User shall adequately document such action (i.e., by certified mail receipt or a signed statement by the owner/operator) and shall provide a copy of the notice or signed statement to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, within seven (7) days of such action.

B. Reapplication And Continuance

1. Duty To Reapply

If User wishes to continue an activity authorized by this Individual Control Document after its expiration date, User must submit a renewal application at least ninety (90) days prior to the expiration date of this Individual Control Document (unless permission for a later submission date has been granted in writing by the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities).

2. Continuation of Individual Control Document

Authorization to discharge under the terms and conditions of this Individual Control Document continues after the expiration date, subject to the conditions set forth herein, only if (a) User has submitted a timely and complete application for reissuance of an Individual Control Document and (b) the City of Kalamazoo, through no fault of User, has not yet provided the User a written determination as to whether an Individual Control Document will be reissued. Such authorization to discharge continues only until the date upon which the reapplication is reissued to User or the City of Kalamazoo provides User written notice that an Individual Control Document will not be reissued, whichever comes first.

C. <u>Inspection And Entry</u>

User shall allow authorized Kalamazoo Department of Public Utilities' staff members and their authorized agents and representatives to enter upon the User's premises where a regulated facility or activity is located or conducted, or where records are kept pertaining to such facility or activity 1) at all reasonable times whether or not discharge is occurring, and 2) at any time when there is a reason to believe a discharge or violation is occurring, for inspecting all operations and records, equipment (including monitoring and control equipment), copying records, and observing and sampling wastewater discharges or production processes.

D. Reporting And Approvals

1. Anticipated Process Changes Notification

a. User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any anticipated process change which may substantially affect User's wastewater flow or quality. Process changes under this section are

defined as major plant expansions or modifications which result in the discharge of (i) new pollutants, (ii) changed pollutants (e.g., BOD) such that the Kalamazoo treatment plant would be receiving a wastestream to which it is not acclimated, or (iii) the introduction of higher quantities or concentrations of existing pollutants. All process changes that could substantially increase User's flow or substantially affect User's wastewater quality (e.g., lower User's wastewater quality) must be approved by the Department of Public Utilities prior to implementation.

b. The Department of Public Utilities may require the User to undertake a compatibility study to demonstrate to the satisfaction of the Department that the wastewater to be discharged is compatible with the existing Kalamazoo wastewater system, will not affect any requirements imposed upon the City (including sludge disposal requirements) and will not adversely affect the Kalamazoo wastewater system.

2. <u>Notification Of Changes Impacting Discharge Limits Developed Under the Combined Wastestream Formula And Approval Of Changes (If Applicable)</u>

- a. If User is subject to alternative discharge limits based upon the combined wastestream formula (40 CFR § 403.6(e)), User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, within five (5) business days after the User has a reasonable basis to believe that an anticipated plant operation change may result in a material or significant change in the values used in calculating alternative categorical discharge limits under the combined wastestream formula. Plant operation changes under this subsection include, but are not limited to, changes in production and changes in the flow of a regulated process wastestream, unregulated process wastestream or dilute wastestream.
- b. User shall provide the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, written notification of its intent to mix a regulated process wastestream prior to its treatment with wastewaters other than those generated by the regulated process. Such mixing of wastestreams must be approved by the Department of Public Utilities prior to implementation. These provisions do not apply to mixtures of regulated process wastestreams which have already been identified to the City of Kalamazoo and which are subject to an effluent limitation in Part III based upon the combined wastestream formula or a more stringent state or local limitation. (See also Part III, Section VIII pertaining to User derivation of alternative discharge limits.)

3. <u>Notification Of Changes Potentially Requiring Flow Weighted Averaging</u> Discharge Limits

User shall provide the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, at least thirty (30) days written notification of its intent to combine an unregulated process wastestream with a treated regulated process wastestream if monitoring for compliance with applicable categorical pretreatment standards occurs at a point downstream of where the wastestreams are combined. Such action may require modification of discharge limits in Part III based upon the flow-proportioning calculation or modification of sampling locations, as appropriate.

4. <u>Notification Of Changed Discharge (Non-Emergency Situation)</u>

User shall provide written notification to the Industrial Services Supervisor, at the Department of Public Utilities within five (5) working days, of any substantial change in the volume or character of pollutants in its discharge, including changes in the listed or characteristic hazardous wastes for which the User has submitted a notification under 40 CFR § 403.12(p).

5. Notification Of Production Changes (If Applicable)

Not Applicable

6. Notification Of Potential Noncompliance

User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any planned changes in its activities which may result in noncompliance with the terms and conditions set forth herein.

7. Notification Of Slug Discharges

User shall provide immediate notification by telephone to the Department of Public Utilities of any spills, slug loads, bypasses or upsets in pretreatment processes that affect discharge to the wastewater system, could cause problems to Kalamazoo's wastewater system or which otherwise could be reasonably expected to endanger health or the environment. User must monitor its processes and activities to assure prompt detection of any problems. A written report, explaining the event, and what steps are being taken to prevent future occurrences, must be submitted to the Industrial Services Supervisor within five (5) working days following the event.

8. Notification Of Violations

If sampling performed by the User indicates a violation of any local, state or federal discharge limitations, the User must notify by telephone the City of Kalamazoo Department of Public Utilities within 24 hours of becoming aware of the violation.

9. <u>Baseline Monitoring Report, 90-Day Compliance Report And Other Federally</u> Mandated Reports

User shall comply with baseline monitoring report requirements, ninety-day compliance report, and other federally mandated reporting requirements as set forth in 40 CFR § 403 et seg.

10. Duty To Provide Information

User shall furnish the City of Kalamazoo, within a reasonable time, any information which the City may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the Individual Control Document or to determine User pretreatment compliance. User shall also furnish to the City, upon request, copies of records required to be kept by the Individual Control Document.

11. Other Information

Where the User becomes aware that it failed to submit any relevant facts in an application for an Individual Control Document, or submitted incorrect information in an application for an Individual Control Document, report to the City of Kalamazoo, or in any other correspondence pertaining to its nondomestic wastewater discharge, it shall promptly submit such facts or information.

12. Telephone Numbers And Reporting Address

- a. Any notifications or reports required by this Individual Control Document regarding spills, slug discharges, or other emergencies to be communicated via telephone to the Public Utilities Department shall use the following telephone numbers:
 - (1) Telephone the Treatment Control Analyst (TCA) at 337-8680. If the TCA does not answer, leave a message on the recorder and proceed to Number 2.
 - (2) Dial the TCA's Pager Number, 671-1715. After you hear the three short beeps, promptly enter YOUR phone number then hang up. The TCA will return your call immediately.
- b. For non-emergency notifications or general telephone communications use 337-8157.

c. Any written notifications or reports required by this Individual Control Document to be submitted to the Kalamazoo Public Utilities Department shall be submitted to the following address:

Industrial Services Supervisor
City of Kalamazoo Public Utilities Department
1415 North Harrison Street
Kalamazoo, Michigan 49007-2565

E. Signatory Requirements

All reports required under this Individual Control Document or otherwise submitted to the Kalamazoo Public Utilities Department pursuant to federal, state or local pretreatment requirements shall be signed by a representative of the User in accordance with 40 CFR § 403.12(1) and shall include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

F. Record Retention

User is required to retain all records pertaining to its wastewater discharge for a minimum of three (3) years and shall make such reports available for inspection and copying by the City. This includes, but is not limited to, all records of monitoring activities and results (whether or not such monitoring activities are otherwise required by the Individual Control Document) including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation; monitoring information identified in Part III; copies of reports required by the Individual Control Document; and records of all data used to complete the application for issuance or reissuance of this document. This period of retention is automatically extended during the course of any unresolved litigation regarding the discharge of pollutants or when requested in writing by the City of Kalamazoo at any time.

G. Public Availability Of User Information

At a minimum, the following User information received by the City of Kalamazoo shall be made available for public inspection by the Department of Public Utilities: (1) effluent data; (2) any data used to determine compliance with Chapter 28 of the Kalamazoo Code or the National Pollutant Discharge Elimination Permit issued to the City of Kalamazoo; and (3) other User information and data, to the extent provided by 40 CFR § 403.13(b) and (c).

H. Proper Operation And Maintenance

User shall at all times properly operate and maintain all pretreatment facilities and systems of treatment and control (and related appurtenances) which are installed or used by the User to achieve compliance with the terms and conditions of this Individual Control Document. This includes adequate laboratory controls and appropriate quality assurance procedures, the operation of back-up or auxiliary facilities or similar systems which are installed by the User only when the operation is necessary to achieve compliance with the conditions of this Individual Control Document.

I. <u>Termination Of Service and Modification, Revocation Or Termination Of Individual</u> <u>Control Document</u>

1. Termination Of Service

The Department of Public Utilities can take immediate action to terminate service and/or halt discharges if the User's discharge poses a significant threat to the City's wastewater collection or treatment system, the environment, or human health or welfare.

2. Modification, Revocation Or Termination Of Individual Control Document

- a. This Individual Control Document, or any part thereof, is subject to change, modification, revocation or reissuance at the sole discretion of the City of Kalamazoo.
- A request by the User for modification or revocation and reissuance does not stay any term or condition set forth herein pending a decision by the City of Kalamazoo upon such request.

J. <u>Duty To Comply; Liability For Noncompliance</u>

1. Duty To Comply

User must comply with (a) all terms and conditions of this Individual Control Document and (b) applicable pretreatment requirements established under federal, state or local law whether or not those requirements are specifically set forth herein. These requirements include, but are not limited to, federal categorical pretreatment standards (40 CFR Chapter 1, Subchapter N); federal

general prohibitions (40 CFR § 403.5(a)(1); federal specific prohibitions (40 CFR § 403.5(b), and local limits set forth in Chapter 28 of the Kalamazoo City Code of Ordinances. Any noncompliance constitutes a violation and is grounds for enforcement action, for Individual Control Document termination, revocation and reissuance, modification, or denial of a request for reissuance.

2. Penalties For Noncompliance

Noncompliance with any terms or conditions of this Individual Control Document, any applicable statute, ordinance, regulation, rule, or other pretreatment requirement may subject the User to civil and/or criminal penalties. These penalties include, but are not limited to, a fine of \$25,000 per day for each violation under federal law (33 U.S.C. § 1319(d)) and the administrative assessment of up to \$500.00 per day per violation under local law (City of Kalamazoo Wastewater Use Regulation 1-89).

3. <u>Damages</u>

In addition to any applicable civil or criminal penalty, User is liable for:

- a. All damage which its discharge does to the City of Kalamazoo's wastewater collection or treatment system if that damage is caused, in whole or in part, by the User's violation of this Individual Control Document or any applicable law, ordinance, regulation, rule, or pretreatment requirement.
- b. Any penalty imposed upon the City of Kalamazoo (whether by judicial or administrative order or the settlement of a judicial or administrative penalty action) where the violation of the City of Kalamazoo was caused by the User, either alone or in conjunction with discharge(s) from other source(s).
- c. Such other damages, e.g., lost revenues, as are authorized by law to be collected by the City of Kalamazoo.

4. Public Notice Of Noncompliance

If User is determined by the City of Kalamazoo to be in significant noncompliance, as defined in 40 CFR § 403.8(f)(2)(vii), the City of Kalamazoo shall provide an annual public notification of such status in a local daily newspaper.

5. Termination Of Individual Control Document

Compliance with this Individual Control Document is a necessary condition of receiving wastewater service. The City of Kalamazoo may terminate this Individual Control Document and wastewater service for, among other things, noncompliance with any of the terms or conditions set forth herein, or any requirements set forth in an applicable law, ordinance, regulation, or rule.

6. Cessation Of User Discharge

Upon notice from Kalamazoo, User shall immediately cease any discharge of pollutants which reasonably appears to present an imminent endangerment to the health or welfare of persons, presents an endangerment to the environment or which threatens to interfere with the operation of the Kalamazoo wastewater system.

7. Duty To Mitigate

User shall take all reasonable steps to minimize or prevent any discharge which has the reasonable likelihood of adversely affecting human health, the environment, or the Kalamazoo wastewater system.

8. Need To Halt Or Reduce Activity Not A Defense

It shall not be a defense for the User in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the terms and conditions of this Individual Control Document, or any requirements set forth in an applicable law, ordinance, regulation or rule.

9. Kalamazoo Reservation Of Rights

Nothing in this Individual Control Document shall be deemed to limit or otherwise waive the liability of User to the City of Kalamazoo under local, federal, or state law (including common law), for damages, injury, loss, or other liability resulting from User's discharge to the Kalamazoo wastewater system. Nor shall any provision in this Individual Control Document be deemed to limit the ability of the City of Kalamazoo to take action, as necessary, to enjoin or abate User's discharge.

K. <u>Notification Of Responsibilities Under The Clean Water Act And Resource</u> <u>Conservation Recovery Act</u>

User is hereby notified of its legal responsibility to comply with applicable pretreatment standards (See 40 CFR Chapter I, Subchapter N), sections 204(b) and 405 of the Clean Water Act, and Subtitles C and D of the Resource Conservation and Recovery Act (See e.g., 40 CFR § 261 et seq.). This includes the duty to notify the City of Kalamazoo, the U.S. Environmental Protection Agency, and the State of Michigan pursuant to 40 CFR § 403.12(p) of any discharge into Kalamazoo's treatment plant which, if otherwise disposed of, would be a hazardous waste under 40 CFR § 261.

L. Spill Prevention

User shall install any equipment or devices necessary to prevent any spillage or leakage of process solutions or chemicals from entering the wastewater system. Additionally, the User shall store bulk chemicals and toxic wastes in such a manner to prevent any accidental discharge to the wastewater system in the event of a spill.

M. Slug Discharge Control Plan (If Applicable)

1. Submission Of Draft Plan

Specified Date: Not Applicable

By date specified above, User shall submit a draft slug control plan to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities. Such plan, at a minimum, shall address the following elements:

- a. Description of discharge practices, including non-routine batch discharges;
- b. Description of stored chemicals;
- c. Procedures for immediately notifying the Kalamazoo Department of Public Utilities of slug discharges, including any discharge that would violate a specific prohibition (see 40 CFR § 403.5(b)), with procedures for follow-up written notification within five (5) days;
- d. Procedures as necessary to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents) and/or measures and equipment necessary for emergency response.

2. Revision Of Draft Plan

User shall revise its draft slug control plan in accordance with comments received from the City of Kalamazoo within thirty days, unless a longer time period is provided in writing by Kalamazoo.

3. Compliance With Approved Plan

User shall comply with the slug control plan as approved, including any changes set forth by the Kalamazoo Department of Public Utilities.

N. <u>Authorized Kalamazoo Representatives</u>

The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate in responding to User's pretreatment obligations. These activities include, but are not limited to, termination of service, enforcement and inspection.

O. Severability

The provisions of this Individual Control Document are severable, and if any provision of this document or the application of any provision of this document to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this document, shall not be affected thereby.

Individual Control Document Part III: Discharge Limitations, Monitoring Locations And Reporting

User Name:

H M Holding, Incorporated

Address:

436 Seventh Avenue

Pittsburgh, PA 15219

Phone:

412-227-2515

Contact:

Ms. Billie S. Flaherty

Site Name:

Allied Paper Dewatering Lagoons

Site Address:

Allied Paper Site Kalamazoo, MI

Phone:

616-336-6000

Contact: Mr. Jon DeWitt

A. Local Discharge "End-Of-Pipe" Limitations

1. These limitations and sampling requirements apply to the discharge from your facility to the wastewater system at the designated monitoring location described in (2) below. Please refer to the City of Kalamazoo Code, Chapter 28, (or the applicable ordinance of the municipality where the facility is located) and Part III (C) below for prohibited discharge limitations.

<u>Pollutants</u>	<u>Daily Max.</u> <u>mg/L</u>	Minimum Sampling Frequency	<u>Sample</u> <u>Type</u>
Cadmium, T	0.040	Not Required	Grab
Chromium, T	4.67	Not Required	Grab
Copper, T	2.23	Not Required	Grab
Lead, T	0.110	Not Required	Grab
Nickel, T	1.59	Not Required	Grab
Zinc, T	5.30	Not Required	Grab
Cyanide, T	0.250	Not Required	Grab
Petroleum Hydrocarbon	100	Not Required	Grab
pH	6.2-9.8 S.U.	Not Required	Grab
Mercury, T	prohibited	Not Required	Grab
PCBs, T	prohibited	Each batch discharged	Grab

The detection limit shall not exceed 0.2 ug/L for PCB and 0.5 ug/L for mercury, unless higher levels are appropriate because of sample matrix interference.

2. The following location is a designated "end-of-pipe" monitoring location for the facility:

Code Monitoring Location Description

HMH Three storage tanks east of the pretreatment building.

B. Process-Specific Discharge "End-Of-Process" Limitations

Not applicable.

C. <u>Discharge Prohibitions</u>

User shall not cause interference or pass through; or discharge in violation of the specific prohibitions set forth in 40 CFR § 403.5(b) or the prohibited discharge requirements set forth in the City of Kalamazoo Code (or the applicable ordinance of the municipality where the facility is located).

D. <u>Discharge Points And Monitoring Facilities</u>

User may discharge nondomestic wastes into the Kalamazoo treatment system only at the sampling locations identified in Part III (A) and (B). Alternate discharge or sampling points may only be used upon written approval from the Industrial Services Supervisor at the City of Kalamazoo. User shall maintain monitoring locations and associated equipment. User shall also install equipment or implement other verifiable techniques to measure flow. User may be required, at the discretion of the City of Kalamazoo to install and maintain automatic sampling equipment.

E. Self-Monitoring And Reporting

1. Frequency and Sampling Requirements

a. User shall perform the following sampling and analyses: An adequate number of samples shall be collected to ensure that the process discharge equipment is operating properly and that the wastewater discharge does not violate limitations set forth in this Individual Control Document. At a minimum, samples shall be collected at least as frequently as specified in Part III (A) and (B) for all pollutants listed. For pollutants with a "grab" sample technique indicated, a minimum of four (4) grab samples must be used. All other samples must be 24 hour flow proportional composite samples where feasible. If flow proportional compositing is infeasible, samples may be obtained through time proportional composite sampling techniques.

- b. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken on a day when the regulated pollutants are likely to be present in their maximum concentration, including monitoring of batch discharges should such discharges occur.
- c. All sampling and analyses shall be conducted according to EPA-approved methods set forth in 40 CFR § 136 or other validated procedures approved by the Director of Public Utilities.

2. Reporting of Increased Monitoring Data

User may monitor more frequently than required by this Individual Control Document. If the User monitors any pollutant more frequently than required by this Individual Control Document using the procedures set forth in 40 CFR § 136, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the User's self-monitoring report.

3. Repeat Sampling When Violation Indicated

If sampling performed by the User indicates a violation, the User shall:

- a. Notify the City of Kalamazoo within 24 hours of becoming aware of the violation.
- b. Repeat sampling and analyses for the pollutant(s) in violation.
- c. Submit the results of the repeated analyses to the Industrial Services Supervisor within 30 days after becoming aware of the violation.

More than one resample may be required to establish a return to compliance.

4. Self-Monitoring Reports

Self-monitoring reports shall be submitted Semi-Annually. The first self-monitoring report shall be submitted by July 10, 1994 and shall contain information for January 1, 1994 through June 30, 1994. Reports for each period shall be due on the tenth of the month following the period. Reporting forms supplied by the City of Kalamazoo to the User, if applicable, shall be used and appropriately completed. At a minimum the reports shall contain:

a. Average and maximum daily flows for the period.

- b. Results of all sampling performed by the User during the specified period.
- c. Certification Statement: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. Other User Specific Monitoring and Reporting Requirements

Monthly Report: Total monthly flow shall be reported to the Industrial services Records Specialist. The monthly report shall also contain a log of each batch discharged, including the date the batch was sampled, results of the sampling, the date it was discharged, and whether it was discharged to the Kalamazoo Water Reclamation Plant or returned to the lagoons. The report shall be due each month by the 10th of the following month.

F. Averaging Of Measurements

Calculations for limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Individual Control Document or in the applicable federal, state or local pretreatment standards.

G. <u>Dilution Prohibition</u>

Except where expressly authorized to do so by an applicable pretreatment standard or requirement, User shall not increase the use of process water, or in any other way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a pretreatment standard or requirement.

H. <u>Combined Wastestream Formula</u>

1. <u>User To Derive Alternative Discharge Limits Using Combined Wastestream</u> <u>Formula</u>

Where a regulated process wastestream is to be mixed prior to its treatment with wastewaters other than those generated by the regulated process, the User shall derive alternative discharge limits for each regulated pollutant in each process wastestream pursuant to the combined wastestream formula set forth in 40 CFR § 403.6(e). This requirement does not apply to mixtures of regulated process wastestreams which have already been identified by the User to the City of Kalamazoo.

2. Alternative limits derived by the User shall not apply to the User until approved or modified in writing by the City of Kalamazoo. User shall comply with the discharge limits set forth in Part III (A) and (B) until the City of Kalamazoo modifies the limits or approves a modification request.

I. Record-Keeping

User shall maintain records of monitoring of wastewater at its (1) end of pipe, (2) end of process, and (3) any other internal wastestream monitoring regardless if the User is otherwise required by this Individual Control Document to monitor its wastewater at such locations, frequencies, or pollutant parameters. Records shall include:

- 1. The dates, exact location, method and time of sampling or measurements and the individual(s) who performed the sampling or measurements;
- 2. The date(s) analyses were performed, the analytical techniques or methods used, the individual(s) who performed the analyses, and the results of such analyses.

Individual Control Document
Part IV: Compliance Schedule

User Name:

H M Holding, Incorporated

Address:

436 Seventh Avenue Pittsburgh, PA 15219

Phone:

412-227-2515

Contact:

Ms. Billie S. Flaherty

Site Name:

Allied Paper Dewatering Lagoons

Site Address: Allied Paper Site

Kalamazoo, MI

Phone:

616-336-6000

Contact:

Mr. Jon DeWitt

A. Action Required

Not applicable.

ANY PERMITS OR APPROVALS WHICH MUST BE OBTAINED FROM OTHER GOVERNMENTAL AGENCIES ARE THE RESPONSIBILITY OF THE USER. The City of Kalamazoo does not by its approval of any of the designs or installation of the plants and equipment, warrant or aver in any manner that User's implementation of such measures will result in compliance with User's pretreatment requirements. Notwithstanding any approval of such plans by the City of Kalamazoo, User remains solely responsible for compliance with the terms of this Individual Control Document and federal, state and local requirements.

B. Reporting

Reports of compliance or noncompliance with, or any progress reports on requirements set forth in Part IV Section I, above, shall be submitted to the City of Kalamazoo no later than 14 days following each schedule date. Reports shall, at a minimum, identify whether the User has complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the User to return to the established schedule. (40 CFR § 403.12(c))

C. Effect Of Compliance Schedule

1. <u>Inclusion Of Compliance Schedule Discretionary</u>

The City of Kalamazoo may amend this Individual Control Document, at its discretion, to include a compliance schedule to address any instances of noncompliance with a federal, state or local pretreatment requirement, including noncompliance with the terms and conditions set forth in this Individual Control Document. A compliance schedule may also be included to set forth reasonably expeditious milestones for complying with new federal, state or local requirements.

2. Compliance With Schedule Milestones Not A Defense (If Applicable)

Compliance with the milestones set forth in Part IV, Section I, above, does not absolve the User from its legal obligations to comply with the requirements as otherwise set forth in this Individual Control Document or any applicable federal, state or local law, regulation, rule, ordinance or pretreatment requirement. Accordingly, it shall not be a defense to an enforcement action that the User complied with the milestones set forth above.

3. <u>Compliance With Federal Categorical Standards</u>

Compliance by existing sources with federal categorical pretreatment standards shall be within three (3) years of the date the standard is effective unless a shorter compliance time is specified in the applicable subpart of 40 CFR Chapter I, Subchapter N. New sources shall meet all applicable pretreatment standards within the shortest feasible time not to exceed ninety (90) days. At a minimum, User shall submit to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, semi-annual notices (on the first day of the months of April and October) identifying specific actions taken to comply with such standards.

Individual Control Document Part V: Definitions

User Name: H M Holding, Incorporated

Address: 436 Seventh Avenue

Pittsburgh, PA 15219

Phone: 412-227-2515

Contact: Ms. Billie S. Flaherty

Site Name: Allied Paper Dewatering Lagoons

Site Address: Allied Paper Site

Kalamazoo, Mi

Phone: 616-336-6000 Contact: Mr. Jon DeWitt

Except as provided below, terms set forth herein shall be defined as set forth in Kalamazoo Code § 28-1 or Wastewater Use Regulations. If a term is not defined below or in the Kalamazoo Code or Wastewater Use Regulations, then it shall be defined as set forth in corresponding federal regulations. (See, e.g., 40 CFR § 403.3.)

- A. <u>Daily Maximum</u>: The maximum allowable discharge of a pollutant during a calendar day. Where daily maximum discharge limits are expressed in units of mass, the daily discharge is the total mass discharges over the course of the day. Where daily maximum limitations are expressed in terms of concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.
- B. <u>Domestic Waste</u>: Human waste and other waste related to personal or residential sanitation including hauled septage waste.
- C. Flow Proportional Composite Sample: A sampling method which combines discrete aliquots of a sample collected over time, based on the flow of the wastestream being sampled. The aliquots collected shall be at constant time intervals with the volume of each aliquot varying based upon the stream flow. Flow proportional samples can also be a combination of constant volume samples collected at time intervals which vary based on the stream flow.

- D. <u>Grab Sample</u>: A sample which is taken on a one-time basis with no regard to the flow of the wastestream and without consideration of time.
- E. Monthly Average: The sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. If the pollutant concentration in any sample is less than the detection limit, a value of zero is used in calculating the monthly average concentration.
- F. <u>Non-Domestic Wastewater</u>: Wastewater that contains nondomestic waste including contaminated groundwater and leachate.
- G. Regulated Process Wastestream: An industrial process wastestream regulated by a national categorical pretreatment standard. Such determination may be pollutant specific a wastestream from a process may be "regulated" for one pollutant and "unregulated" for another.
- H. <u>Time Proportional Composite Sample</u>: A sampling method which combines discrete sample aliquots of constant volume collected at constant time intervals.
- I. <u>Unregulated Process Wastestream</u>: An industrial process wastestream that is not regulated by a national categorical pretreatment standard. Such determination may be pollutant specific a wastestream from a process may be "regulated" for one pollutant and "unregulated" for another.

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PS Form 3811, December 1991 xu.s. gpo. 1983—352-714	6. Superure (Ageny)	5. Signature (Addressee)	HUNT VALLEY, MD 21030	FIONAL CIRCLE	c/o SCM CHEMICALS, INC.	\$	opes not permit. "Write "Return Receipt Requested" on the mailpiece below the article number "The Return Receipt will show to whom the article was delivered and the date delivered	 Complete items 3, and 4a & b Print your name and address on the reverse of this form so that we can return this card to you. Attach this form to the front of the mailpiece, or on the back if space 	SENDER: • Complete items 1 and/or 2 for additional services
DOMESTIC RETURN RECEIPT		8. Addressee's Address (Only if requested key and fee is paid)	7. Date of Delivery 1. Unit 7 life	Express Mail	4b. Service Type	4a. Article Number 2 392 448 965 E	d the date Consult postmaster for fee.	following services (for an extra ext	I also wish to receive the

Z 392 448 965



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Do not use for International Mail
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Restricted Delivery Fee STA Return Receipt Stowns to Whom & Date Districted 13 Return Receipt Stowns to 111 PM Date and Addressacts Address TOTAL Postage & Fees Postmark or Date



PUBLIC SERVICES DEPARTMENT



December 9, 1996

Certified Mail #Z 392 448 965

Mr. Samuel J. Friedman Millennium Holdings, Inc., c/o SCM Chemicals, Inc. 200 International Circle, Suite 5000 Hunt Valley, MD 21030

Re: Allied Paper Dewatering Lagoons

Dear Mr. Friedman:

The following changes have been made in the enclosed Individual Control Document issued for the Allied Paper Dewatering Lagoons:

User Name & Address
Contact Name & Phone Number

For your convenience I have also enclosed copies of the City of Kalamazoo Sewer Use Ordinance, Sewer Use Regulations #1-89, #91-1, and #94-1, and Kalamazoo Water Reclamation Plant Discharge Limitations. If you have any questions please call me at (616) 337-8716.

Sincerely,

Tim Meulenberg

Industrial Services Supervisor

cc: Kenneth P. Collard, Director of Public Services

Robert Cinabro, City Attorney

Jon DeWitt, Attorney-Varnum, Riddering, Schmidt & Howlett

Gregory W. Peterson, Limno-Tech Incorporated

file

enc.

Millennium Holdings Inc., c/o SCM Chemicals, Inc. User Name:

200 International Circle Address:

Suite 5000

Hunt Valley MD 21030

Allied Paper Dewatering Lagoons Allied Paper Site Kalamazoo MI Site Name:

Address:

March 1, 1994 Date of Issue:

Expiration Date: March 31, 1999

Individual Control Document

Table of Contents

Part I: General Discharge Standards Compliance Schedule Monitoring And Reporting Effective Date and Expiration Date	1 1 1 1
Part II: Regulations and Requirements Effect of Individual Control Document Compliance with Applicable Law Property Rights Non-transferability of Individual Control Document Reapplication And Continuance Duty To Reapply Continuation of Individual Control Document Inspection And Entry Reporting And Approvals Anticipated Process Changes Notification Notification Of Changes Impacting Discharge Limits Developed Under the Combined Wastestream Formula And Approval Of Changes Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits Notification Of Potential Noncompliance Notification Of Potential Noncompliance Notification of Flow Discharges Notification of Potential Noncompliance Notification Of Violations Baseline Monitoring Report, 90-Day Compliance Report And Other Federally Mandated Reports Duty To Provide Information Other Information Telephone Numbers And Reporting Address Signatory Requirements Record Retention Proper Operation And Maintenance Termination Of Service and Modification, Revocation Or Termination Of Individual Control Document Termination Of Service Modification, Revocation Or Termination Of Individual Control Document Duty To Comply Penalties For Noncompliance Duty To Comply Penalties For Noncompliance Damages Public Notice Of Noncompliance	2222222333 333444444455555555555666
Termination Of Individual Control Document Cessation Of User Discharge Duty To Mitigate Need To Halt Or Reduce Activity Not A Defense Kalamazoo Reservation Of Rights Notification Of Responsibilities Under The Clean Water Act And Resource Conservation Recovery Act Spill Prevention Slug Discharge Control Plan Submission Of Draft Plan Revision Of Draft Plan Compliance With Approved Plan Authorized Kalamazoo Representatives Severability	66 66 67 77 77 77
Part III: Discharge Limitations, Monitoring Locations And Reporting Local Discharge "End-Of-Pipe" Limitations Process-Specific Discharge "End-Of-Process" Limitations Discharge Prohibitions Discharge Points And Monitoring Facilities Self-Monitoring And Reporting	8 8 9 9 9

Frequency and Sampling Requirements Reporting of Increased Monitoring Data Repeat Sampling When Violation Indicated Self-Monitoring Reports Other User Specific Monitoring and Reporting Requirements Averaging Of Measurements Dilution Prohibition Combined Wastestream Formula User To Derive Alternative Discharge Limits Using Combined, Wastestream Formula Record-Keeping	9 9 9 10 10 10 10
Part IV: Compliance Schedule Action Required Reporting Effect Of Compliance Schedule Inclusion Of Compliance Schedule Discretionary Compliance With Schedule Milestones Not A Defense Compliance With Federal Categorical Standards	11 11 11 11 11 11
Part V: Definitions	13

CITY OF KALAMAZOO WASTEWATER SERVICE

FILE COPY

Individual Control Document Part I: General

User Name:

Millennium Holdings Inc., c/o SCM Chemicals, Inc.

Address:

200 International Circle

Suite 5000

Hunt Valley MD 21030

Phone:

(410) 229-4415

Contact

Mr. Samuel J. Friedman

Site Name:

Allied Paper Dewatering Lagoons

Address:

Allied Paper Site

Kalamazoo MI

Phone : Contact:

(616) 336-6000 Mr. Jon DeWitt

In accordance with the provisions of Kalamazoo Code 28-1 et seq., Michigan Administrative Code R.323.2162 et seq. and 40 CFR Chapter 1, Subchapter N, Millennium Holdings Inc., c/o SCM Chemicals, Inc. hereafter referred to as "User" which is synonymous with "Significant Industrial User" for the purpose of this document is authorized to discharge nondomestic wastewater from the above identified facility and through the outfalls identified herein into the wastewater system of the City of Kalamazoo in accordance with the terms and conditions set forth in this Individual Control Document.

A. Discharge Standards

Specific limits on applicable pollutants discharged to the sanitary sewer are presented in Part III.

B. Compliance Schedule

As required, areas of noncompliance or a time-frame to achieve compliance with new requirements, shall be resolved on the specified timetable included in Part IV.

C. Monitoring And Reporting

User shall install and maintain necessary monitoring systems and pretreatment equipment. User shall perform any required wastestream sampling and analyses. Additional requirements pertaining to monitoring and reporting of monitoring results are set forth in Part II and Part III.

D. Effective Date and Expiration Date

This Individual Control Document is effective as of April 1, 1994 and authorizes User's discharge, subject to the conditions set forth in Parts I, II, III, IV, and V herein, until midnight, March 31, 1999.

Kenneth P. Collard

Director of Public Services

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual control Document Part II: Regulations and Requirements

User Name:

Millennium Holdings Inc., c/o SCM Chemicals, Inc.

Address:

200 International Circle

Suite 5000

Hunt Valley MD 21030

Phone:

(410) 229-4415

Contact

Mr. Samuel J. Friedman

Site Name : Address:

Allied Paper Dewatering Lagoons

Allied Paper Site

Kalamazoo MI

Phone: Contact:

(616) 336-6000 Mr. Jon DeWitt

A. Effect of Individual Control Document

1. Compliance with Applicable Law

This Individual Control Document does not relieve the User of its obligations under any local, state, or federal statutes, ordinances, rules, or regulations. Additional local requirements pertaining to wastewater discharge can be found in the City of Kalamazoo Code of Ordinances (Chapter 28), and in any associated Wastewater Use Regulations. User shall comply with all applicable federal, state, and local pretreatment laws, regulations, rules, ordinances, and other pretreatment requirements, including those that may become effective during the term of this Individual Control Document.

2. Property Rights

This Individual Control Document does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to persons or property, invasion of other private rights, or any infringement of federal, state or local laws, regulations, rules, ordinances, or other requirements.

3. Non-transferability of Individual Control Document

This Individual Control Document applies only to the aforementioned identified User and shall not be transferred to another User. A copy of this Individual Control Document must be provided to any new owner/operator of the User's facility prior to the transfer of ownership and/or operator responsibility. User shall adequately document such action (i.e., by certified mail receipt or a signed statement by the owner/operator) and shall provide a copy of the notice or signed statement to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, within seven (7) days of such action.

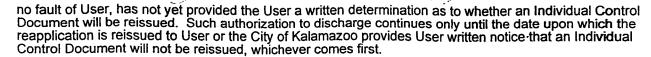
B. Reapplication And Continuance

1. Duty To Reapply

If User wishes to continue an activity authorized by this Individual Control Document after its expiration date, User must submit a renewal application at least ninety (90) days prior to the expiration date of this Individual Control Document (unless permission for a later submission date has been granted in writing by the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities).

2. Continuation of Individual Control Document

Authorization to discharge under the terms and conditions of this Individual Control Document continues after the expiration date, subject to the conditions set forth herein, only if (a) User has submitted a timely and complete application for reissuance of an Individual Control Document and (b) the City of Kalamazoo, through



C. Inspection And Entry

User shall allow authorized Kalamazoo Department of Public Utilities' staff members and their authorized agents and representatives to enter upon the User's premises where a regulated facility or activity is located or conducted, or where records are kept pertaining to such facility or activity 1) at all reasonable times whether or not discharge is occurring, and 2) at any time when there is a reason to believe a discharge or violation is occurring, for inspecting all operations and records, equipment (including monitoring and control equipment), copying records, and observing and sampling wastewater discharges or production processes.

D. Reporting And Approvals

- 1. Anticipated Process Changes Notification
 - User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any anticipated process change which may substantially affect User's wastewater flow or quality. Process changes under this section are defined as major plant expansions or modifications which result in the discharge of (i) new pollutants, (ii) changed pollutants (e.g., BOD) such that the Kalamazoo treatment plant would be receiving a wastestream to which it is not acclimated, or (iii) the introduction of higher quantities or concentrations of existing pollutants. All process changes that could substantially increase User's flow or substantially affect User's wastewater quality (e.g., lower User's wastewater quality) must be approved by the Department of Public Utilities prior to implementation.
 - b. The Department of Public Utilities may require the User to undertake a compatibility study to demonstrate to the satisfaction of the Department that the wastewater to be discharged is compatible with the existing Kalamazoo wastewater system, will not affect any requirements imposed upon the City (including sludge disposal requirements) and will not adversely affect the Kalamazoo wastewater system.
- Notification Of Changes Impacting Discharge Limits Developed Under the Combined Wastestream Formula And Approval Of Changes (If Applicable)
 - a. If User is subject to alternative discharge limits based upon the combined wastestream formula (40 CFR § 403.6(e)), User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, within five (5) business days after the User has a reasonable basis to believe that an anticipated plant operation change may result in a material or significant change in the values used in calculating alternative categorical discharge limits under the combined wastestream formula. Plant operation changes under this subsection include, but are not limited to, changes in production and changes in the flow of a regulated process wastestream, unregulated process wastestream or dilute wastestream.
 - b. User shall provide the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, written notification of its intent to mix a regulated process wastestream prior to its treatment with wastewaters other than those generated by the regulated process. Such mixing of wastestreams must be approved by the Department of Public Utilities prior to implementation. These provisions do not apply to mixtures of regulated process wastestreams which have already been identified to the City of Kalamazoo and which are subject to an effluent limitation in Part III based upon the combined wastestream formula or a more stringent state or local limitation. (See also Part III, Section VIII pertaining to User derivation of alternative discharge limits.)
- 3. Notification Of Changes Potentially Requiring Flow Weighted Averaging Discharge Limits

User shall provide the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, at least thirty (30) days written notification of its intent to combine an unregulated process wastestream with a treated regulated process wastestream if monitoring for compliance with applicable categorical pretreatment standards occurs at a point downstream of where the wastestreams are combined. Such action may require modification of discharge limits in Part III based upon the flow-proportioning calculation or modification of sampling locations, as appropriate.

4. Notification Of Changed Discharge (Non-Emergency Situation)

User shall provide written notification to the Industrial Services Supervisor, at the Department of Public Utilities within five (5) working days, of any substantial change in the volume or character of pollutants in its discharge, including changes in the listed or characteristic hazardous wastes for which the User has submitted a notification under 40 CFR § 403.12(p).

5. Notification Of Production Changes (If Applicable)

Not Applicable

6. Notification Of Potential Noncompliance

User shall provide written notification to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, of any planned changes in its activities which may result in noncompliance with the terms and conditions set forth herein.

7. Notification Of Slug Discharges

User shall provide immediate notification by telephone to the Department of Public Utilities of any spills, slug loads, bypasses or upsets in pretreatment processes that affect discharge to the wastewater system, could cause problems to Kalamazoo's wastewater system or which otherwise could be reasonably expected to endanger health or the environment. User must monitor its processes and activities to assure prompt detection of any problems. A written report, explaining the event, and what steps are being taken to prevent future occurrences, must be submitted to the Industrial Services Supervisor within five (5) working days following the event.

8. Notification Of Violations

If sampling performed by the User indicates a violation of any local, state or federal discharge limitations, the User must notify by telephone the City of Kalamazoo Department of Public Utilities within 24 hours of becoming aware of the violation.

9. Baseline Monitoring Report, 90-Day Compliance Report And Other Federally Mandated Reports

User shall comply with baseline monitoring report requirements, ninety-day compliance report, and other federally mandated reporting requirements as set forth in 40 CFR § 403 et seg.

10. Duty To Provide Information

User shall furnish the City of Kalamazoo, within a reasonable time, any information which the City may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the Individual Control Document or to determine User pretreatment compliance. User shall also furnish to the City, upon request, copies of records required to be kept by the Individual Control Document.

11. Other information

Where the User becomes aware that it failed to submit any relevant facts in an application for an Individual Control Document, or submitted incorrect information in an application for an Individual Control Document, report to the City of Kalamazoo, or in any other correspondence pertaining to its nondomestic wastewater discharge, it shall promptly submit such facts or information.

Telephone Numbers And Reporting Address

- Any notifications or reports required by this Individual Control Document regarding spills, slug discharges, or other emergencies to be communicated via telephone to the Public Utilities Department shall use the following telephone numbers:
 - (1) Telephone the Treatment Control Analyst (TCA) at 337-8680. If the TCA does not answer, leave a message on the recorder and proceed to Number 2.
 - (2) Dial the TCA's Pager Number, 671-1715. After you hear the three short beeps, promptly enter YOUR phone number then hang up. The TCA will return your call immediately.
- b. For non-emergency notifications or general telephone communications use 337-8157.
- c. Any written notifications or reports required by this Individual Control Document to be submitted to the Kalamazoo Public Utilities Department shall be submitted to the following address:

Industrial Services Supervisor City of Kalamazoo Public Utilities Department 1415 North Harrison Street Kalamazoo, Michigan 49007-2565

E. Signatory Requirements

All reports required under this Individual Control Document or otherwise submitted to the Kalamazoo Public Utilities Department pursuant to federal, state or local pretreatment requirements shall be signed by a representative of the User in accordance with 40 CFR § 403.12(1) and shall include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

F. Record Retention

User is required to retain all records pertaining to its wastewater discharge for a minimum of three (3) years and shall make such reports available for inspection and copying by the City. This includes, but is not limited to, all records of monitoring activities and results (whether or not such monitoring activities are otherwise required by the Individual Control Document) including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation; monitoring information identified in Part III; copies of reports required by the Individual Control Document; and records of all data used to complete the application for issuance or reissuance of this document. This period of retention is automatically extended during the course of any unresolved litigation regarding the discharge of pollutants or when requested in writing by the City of Kalamazoo at any time.

G. Public Availability Of User Information

At a minimum, the following User information received by the City of Kalamazoo shall be made available for public inspection by the Department of Public Utilities: (1) effluent data; (2) any data used to determine compliance with Chapter 28 of the Kalamazoo Code or the National Pollutant Discharge Elimination Permit issued to the City of Kalamazoo; and (3) other User information and data, to the extent provided by 40 CFR § 403.13(b) and (c).

H. Proper Operation And Maintenance

User shall at all times properly operate and maintain all pretreatment facilities and systems of treatment and control (and related appurtenances) which are installed or used by the User to achieve compliance with the terms and conditions of this Individual Control Document. This includes adequate laboratory controls and appropriate quality assurance procedures, the operation of back-up or auxiliary facilities or similar systems which are installed by the User only when the operation is necessary to achieve compliance with the conditions of this Individual Control Document.

I. Termination Of Service and Modification, Revocation Or Termination Of Individual Control Document

1. Termination Of Service

The Department of Public Utilities can take immediate action to terminate service and/or halt discharges if the User's discharge poses a significant threat to the City's wastewater collection or treatment system, the environment, or human health or welfare.

2. Modification, Revocation Or Termination Of Individual Control Document

- a. This Individual Control Document, or any part thereof, is subject to change, modification, revocation or reissuance at the sole discretion of the City of Kalamazoo.
- b. A request by the User for modification or revocation and reissuance does not stay any term or condition set forth herein pending a decision by the City of Kalamazoo upon such request.

J. Duty To Comply; Liability For Noncompliance

1. Duty To Comply

User must comply with (a) all terms and conditions of this Individual Control Document and (b) applicable pretreatment requirements established under federal, state or local law whether or not those requirements are specifically set forth herein. These requirements include, but are not limited to, federal categorical pretreatment standards (40 CFR Chapter 1, Subchapter N); federal general prohibitions (40 CFR § 403.5(a)(1); federal specific prohibitions (40 CFR § 403.5(b), and local limits set forth in Chapter 28 of the

Kalamazoo City Code of Ordinances. Any noncompliance constitutes a violation and is grounds for enforcement action, for Individual Control Document termination, revocation and reissuance, modification, or denial of a request for reissuance.

2. Penalties For Noncompliance

Noncompliance with any terms or conditions of this Individual Control Document, any applicable statute, ordinance, regulation, rule, or other pretreatment requirement may subject the User to civil and/or criminal penalties. These penalties include, but are not limited to, a fine of \$25,000 per day for each violation under federal law (33 U.S.C. § 1319(d)) and the administrative assessment of up to \$500.00 per day per violation under local law (City of Kalamazoo Wastewater Use Regulation 1-89).

3. Damages

In addition to any applicable civil or criminal penalty, User is liable for:

- a. All damage which its discharge does to the City of Kalamazoo's wastewater collection or treatment system if that damage is caused, in whole or in part, by the User's violation of this Individual Control Document or any applicable law, ordinance, regulation, rule, or pretreatment requirement.
- b. Any penalty imposed upon the City of Kalamazoo (whether by judicial or administrative order or the settlement of a judicial or administrative penalty action) where the violation of the City of Kalamazoo was caused by the User, either alone or in conjunction with discharge(s) from other source(s).
- Such other damages, e.g., lost revenues, as are authorized by law to be collected by the City of Kalamazoo.

4. Public Notice Of Noncompliance

If User is determined by the City of Kalamazoo to be in significant noncompliance, as defined in 40 CFR § 403.8(f)(2)(vii), the City of Kalamazoo shall provide an annual public notification of such status in a local daily newspaper.

5. Termination Of Individual Control Document

Compliance with this Individual Control Document is a necessary condition of receiving wastewater service. The City of Kalamazoo may terminate this Individual Control Document and wastewater service for, among other things, noncompliance with any of the terms or conditions set forth herein, or any requirements set forth in an applicable law, ordinance, regulation, or rule.

6. Cessation Of User Discharge

Upon notice from Kalamazoo, User shall immediately cease any discharge of pollutants which reasonably appears to present an imminent endangerment to the health or welfare of persons, presents an endangerment to the environment or which threatens to interfere with the operation of the Kalamazoo wastewater system.

7. Duty To Mitigate

User shall take all reasonable steps to minimize or prevent any discharge which has the reasonable likelihood of adversely affecting human health, the environment, or the Kalamazoo wastewater system.

8. Need to Halt Or Reduce Activity Not A Defense

It shall not be a defense for the User in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the terms and conditions of this Individual Control Document, or any requirements set forth in an applicable law, ordinance, regulation or rule.

9. Kalamazoo Reservation Of Rights

Nothing in this Individual Control Document shall be deemed to limit or otherwise waive the liability of User to the City of Kalamazoo under local, federal, or state law (including common law), for damages, injury, loss, or other liability resulting from User's discharge to the Kalamazoo wastewater system. Nor shall any provision in this Individual Control Document be deemed to limit the ability of the City of Kalamazoo to take action, as necessary, to enjoin or abate User's discharge.

K. Notification Of Responsibilities Under The Clean Wate Act And Resource Conservation Recovery Act

User is hereby notified of its legal responsibility to comply with applicable pretreatment standards (See 40 CFR Chapter I, Subchapter N), sections 204(b) and 405 of the Clean Water Act, and Subtitles C and D of the Resource Conservation and Recovery Act (See e.g., 40 CFR § 261 et seq.). This includes the duty to notify the City of Kalamazoo, the U.S. Environmental Protection Agency, and the State of Michigan pursuant to 40 CFR § 403.12(p) of any discharge into Kalamazoo's treatment plant which, if otherwise disposed of, would be a hazardous waste under 40 CFR § 261.

L. Spill Prevention

User shall install any equipment or devices necessary to prevent any spillage or leakage of process solutions or chemicals from entering the wastewater system. Additionally, the User shall store bulk chemicals and toxic wastes in such a manner to prevent any accidental discharge to the wastewater system in the event of a spill.

M. Slug Discharge Control Plan (If Applicable)

1. Submission Of Draft Plan

Specified Date:

By date specified above, User shall submit a draft slug control plan to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities. Such plan, at a minimum, shall address the following elements:

- Description of discharge practices, including non-routine batch discharges;
- Description of stored chemicals;
- Procedures for immediately notifying the Kalamazoo Department of Public Utilities of slug discharges, including any discharge that would violate a specific prohibition (see 40 CFR § 403.5(b)), with procedures for follow-up written notification within five (5) days;
- d. Procedures as necessary to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents) and/or measures and equipment necessary for emergency response.

2. Revision of Draft Plan

User shall revise its draft slug control plan in accordance with comments received from the City of Kalamazoo within thirty days, unless a longer time period is provided in writing by Kalamazoo.

3. Compliance With Approved Plan

User shall comply with the slug control plan as approved, including any changes set forth by the Kalamazoo Department of Public Utilities.

N. Authorized Kalamazoo Representatives

The City of Kalamazoo may act through its Department of Public Utilities or such other department or persons as the City in its sole discretion deems appropriate in responding to User's pretreatment obligations. These activities include, but are not limited to, termination of service, enforcement and inspection.

O. Severability

The provisions of this Individual Control Document are severable, and if any provision of this document or the application of any provision of this document to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this document, shall not be affected thereby.

Wastewater Service

Individual Control Document Part III: Discharge Limitations, Monitoring Locations And Reporting

User Name:

Millennium Holdings Inc., c/o SCM Chemicals, Inc.

Address:

200 International Circle

Suite 5000

Hunt Valley MD 21030

Phone:

(410) 229-4415

Contact

Mr. Samuel J. Friedman

Site Name:

Allied Paper Dewatering Lagoons

Address:

Allied Paper Site

Kalamazoo Mi

Phone:

(616) 336-6000

Contact: Mr. Jon DeWitt

A. Discharge Limitations

1. These limitations and sampling requirements apply to the discharge from your facility to the wastewater system at the designated monitoring location described in (2) below. Please refer to the City of Kalamazoo Code, Chapter 28, (or the applicable ordinance of the municipality where the facility is located and Part III (C) below for prohibited discharge limitations.

Pollutants	Daily Max.	Monthly Average (If applicable)	<u>Unit</u>	Minimum Sampling Frequency	<u>Sample</u> Type
CADMIUM	40		ug/l	Not Required	GRAB
COPPER	2230		ug/l	Not Required	GRAB
CYANIDE	250		ug/l	Not Required	GRAB
LEAD	110		ug/i	Not Required	GRAB
MERCURY	0		ug/l	Not Required	GRAB
NICKEL	1590		ug/l	Not Required	GRAB
PCBs	0		ug/l	Each Batch Discharged	GRAB
TOTAL CHROMIUM	4670		ug/l	Not Required	GRAB
TOTAL PETROLEUM HYDRO	CARBON 100		mg/l	Not Required	GRAB
ZINC	5300		ug/l	Not Required	GRAB
pН	6.2 - 9.8		S.Ū.	Not Required	GRAB

The detection limits shall not exceed 0.1 ug/l for PCBs and 0.2 ug/l for mercury, unless higher levels are appropriate because of sample matrix interference.

The following location is the designated End-Of-Pipe monitoring location for the facility:

Code

Monitoring Location Description

HMH

Three storage tanks east of the pretreatment building.

B. Process-Specific Discharge "End-of-Process" Limitations

Not applicable.

. C. Discharge Prohibitions

User shall not cause interference or pass through; or discharge in violation of the specific prohibitions set forth in 40 CFR § 403.5(b) or the prohibited discharge requirements set forth in the City of Kalamazoo Code (or the applicable ordinance of the municipality where the facility is located).

D. Discharge Points And Monitoring Facilities

User may discharge nondomestic wastes into the Kalamazoo treatment system only at the sampling locations identified in Part III (A) and (B). Alternate discharge or sampling points may only be used upon written approval from the Industrial Services Supervisor at the City of Kalamazoo. User shall maintain monitoring locations and associated equipment. User shall also install equipment or implement other verifiable techniques to measure flow. User may be required, at the discretion of the City of Kalamazoo to install and maintain automatic sampling equipment.

E. Self-Monitoring And Reporting

1. Frequency and Sampling Requirements

- a. User shall perform the following sampling and analyses: An adequate number of samples shall be collected to ensure that the process discharge equipment is operating properly and that the wastewater discharge does not violate limitations set forth in this Individual Control Document. At a minimum, samples shall be collected at least as frequently as specified in Part III (A) and (B) for all pollutants listed. For pollutants with a "grab" sample technique indicated, a minimum of four (4) grab samples must be used. All other samples must be 24 hour flow proportional composite samples where feasible. If flow proportional compositing is infeasible, samples may be obtained through time proportional composite sampling techniques.
- b. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken on a day when the regulated pollutants are likely to be present in their maximum concentration, including monitoring of batch discharges should such discharges occur.
- c. All sampling and analyses shall be conducted according to EPA-approved methods set forth in 40 CFR § 136 or other validated procedures approved by the Director of Public Utilities.

2. Reporting of Increased Monitoring Data

User may monitor more frequently than required by this Individual Control Document. If the User monitors any pollutant more frequently than required by this Individual Control Document using the procedures set forth in 40 CFR § 136, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the User's self-monitoring report.

3. Repeat Sampling When Violation Indicated

If sampling performed by the User indicates a violation, the User shall:

- Notify the City of Kalamazoo within 24 hours of becoming aware of the violation.
- b. Repeat sampling and analyses for the pollutant(s) in violation.
- c. Submit the results of the repeated analyses to the Industrial Services Supervisor within 30 days after becoming aware of the violation.

More than one resample may be required to establish a return to compliance.

4. Self-Monitoring Reports

Self-monitoring reports shall be submitted Semi-Annual. The first self-monitoring report shall be submitted by January 10, 1997 and shall contain information for July 1, 1996 through December 31, 1996. Reports for each period shall be due on the tenth of the month following the period. Reporting forms supplied by the City of Kalamazoo to the User, if applicable, shall be used and appropriately completed. At a minimum the reports shall contain:

- a. Average and maximum daily flows for the period.
- b Results of all sampling performed by the User during the specified period

- c. Certification Statement: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
- 5. Other User Specific Monitoring and Reporting Requirements

Monthly Flow Report: Total monthly flow shall be reported to the Industrial services Records Specialist. The report shall be due each month by the 10th of the followig month.

Initial Self-Monitoring: A minimum of one (1) sample shall be collected each week during the first six (6) weeks of discharge and analyzed for BETX (MDNR Scan 2). In addition, at least once during this initial six week period, a sample shall be collected and analyzed for all pollutants listed in Part III. A. 1.

F. Averaging of Measurements

Calculations for limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Individual Control Document or in the applicable federal, state or local pretreatment standards.

G. Dilution Prohibition

Except where expressly authorized to do so by an applicable pretreatment standard or requirement, User shall not increase the use of process water, or in any other way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a pretreatment standard or requirement.

H. Combined Wastestream Formula

1. User To Derive Alternative Discharge Limits Using Combined Wastestream Formula

Where a regulated process wastestream is to be mixed prior to its treatment with wastewaters other than those generated by the regulated process, the User shall derive alternative discharge limits for each regulated pollutant in each process wastestream pursuant to the combined wastestream formula set forth in 40 CFR § 403.6(e). This requirement does not apply to mixtures of regulated process wastestreams which have already been identified by the User to the City of Kalamazoo.

2. Alternative limits derived by the User shall not apply to the User until approved or modified in writing by the City of Kalamazoo. User shall comply with the discharge limits set forth in Part III (A) and (B) until the City of Kalamazoo modifies the limits or approves a modification request.

I. Record-Keeping

User shall maintain records of monitoring of wastewater at its (1) end of pipe, (2) end of process, and (3) any other internal wastestream monitoring regardless if the User is otherwise required by this Individual Control Document to monitor its wastewater at such locations, frequencies, or pollutant parameters. Records shall include:

- 1. The dates, exact location, method and time of sampling or measurements and the individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed, the analytical techniques or methods used, the individual(s) who
 performed the analyses, and the results of such analyses.

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part IV: Compliance Schedule

User Name:

Millennium Holdings Inc., c/o SCM Chemicals, Inc.

Address: 200 International Circle

Suite 5000

Hunt Valley MD 21030

Phone:

(410) 229-4415

Contact Mr. Samuel J. Friedman

Site Name : Address:

Allied Paper Dewatering Lagoons

200 International Circle

Kalamazoo MI

Phone: Contact:

(616) 336-6000 Mr. Jon DeWitt

A. Action Required

ANY PERMITS OR APPROVALS WHICH MUST BE OBTAINED FROM OTHER GOVERNMENTAL AGENCIES ARE THE RESPONSIBILITY OF THE USER. The City of Kalamazoo does not by its approval of any of the designs or installation of the plants and equipment, warrant or aver in any manner that User's implementation of such measures will result in compliance with User's pretreatment requirements. Notwithstanding any approval of such plans by the City of Kalamazoo, User remains solely responsible for compliance with the terms of this Individual Control Document and federal, state and local requirements.

B. Reporting

Reports of compliance or noncompliance with, or any progress reports on requirements set forth in Part IV Section I, above, shall be submitted to the City of Kalamazoo no later than 14 days following each schedule date. Reports shall, at a minimum, identify whether the User has complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the User to return to the established schedule. (40 CFR § 403.12(c))

C. Effect Of Compliance Schedule

1. Inclusion Of Compliance Schedule Discretionary

The City of Kalamazoo may amend this Individual Control Document, at its discretion, to include a compliance schedule to address any instances of noncompliance with a federal, state or local pretreatment requirement, including noncompliance with the terms and conditions set forth in this Individual Control Document. A compliance schedule may also be included to set forth reasonably expeditious milestones for complying with new federal, state or local requirements.

2. Compliance With Schedule Milestones Not A Defense (If Applicable)

Compliance with the milestones set forth in Part IV, Section I, above, does not absolve the User from its legal obligations to comply with the requirements as otherwise set forth in this Individual Control Document or any applicable federal, state or local law, regulation, rule, ordinance or pretreatment requirement. Accordingly, it shall not be a defense to an enforcement action that the User complied with the milestones set forth above.

3. Compliance With Federal Categorical Standards

Compliance by existing sources with federal categorical pretreatment standards shall be within three (3) years

of the date the standard is effective unless a shorter compliance time is specified in the applicable subpart of 40 CFR Chapter I, Subchapter N. New sources shall meet all applicable pretreatment standards within the shortest feasible time not to exceed ninety (90) days. At a minimum, User shall submit to the Industrial Services Supervisor, at the Kalamazoo Department of Public Utilities, semi-annual notices (on the first day of the months of April and October) identifying specific actions taken to comply with such standards.

CITY OF KALAMAZOO WASTEWATER SERVICE

Individual Control Document Part V: Definitions

User Name: Millennium Holdings Inc., c/o SCM Chemicals, Inc.

Address: 200 International Circle

Suite 5000

Hunt Valley MD 21030

Phone: (410) 229-4415

Contact Mr. Samuel J. Friedman

Site Name: Allied Paper Dewatering Lagoons

Address: Allied Paper Site Kalamazoo MI

Phone: (616) 336-6000 Contact: Mr. Jon DeWitt

Except as provided below, terms set forth herein shall be defined as set forth in Kalamazoo Code § 28-1 or Wastewater Use Regulations. If a term is not defined below or in the Kalamazoo Code or Wastewater Use Regulations, then it shall be defined as set forth in corresponding federal regulations. (See, e.g., 40 CFR § 403.3.)

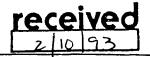
- A. Daily Maximum: The maximum allowable discharge of a pollutant during a calendar day. Where daily maximum discharge limits are expressed in units of mass, the daily discharge is the total mass discharges over the course of the day. Where daily maximum limitations are expressed in terms of concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.
- B. Domestic Waste: Human waste and other waste related to personal or residential sanitation including hauled septage waste.
- C. Flow Proportional Composite Sample: A sampling method which combines discrete aliquots of a sample collected over time, based on the flow of the wastestream being sampled. The aliquots collected shall be at constant time intervals with the volume of each aliquot varying based upon the stream flow. Flow proportional samples can also be a combination of constant volume samples collected at time intervals which vary based on the stream flow.
- D. Grab Sample: A sample which is taken on a one-time basis with no regard to the flow of the wastestream and without consideration of time.
- E. Monthly Average: The sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. If the pollutant concentration in any sample is less than the detection limit, a value of zero is used in calculating the monthly average concentration.
- F. Non-Domestic Wastewater: Wastewater that contains nondomestic waste including contaminated groundwater and leachate.
- G. Regulated Process Wastestream: An industrial process wastestream regulated by a national categorical pretreatment standard. Such determination may be pollutant specific a wastestream from a process may be "regulated" for one pollutant and "unregulated" for another.
- H. Time Proportional Composite Sample: A sampling method which combines discrete sample aliquots of constant volume collected at constant time intervals.
- Unregulated Process Wastestream: An industrial process wastestream that is not regulated by a national categorical pretreatment standard. Such determination may be pollutant specific - a wastestream from a process may be "regulated" for one pollutant and "unregulated" for another.

_INSPECTION	MEF VGPHONE CONVERSATICOBSERVATION
Name of Escilit	: Orchard Hill Foundfill Date: 2/10/93
	17
Addres	
Contac	1: Jerry Miller
Phone	· 463 5588
Topic:	SMR
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·	$i \cdot 0 + i \cdot 0$
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Further Action F	Required:
	
File: [V]	General Correspondence
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·	Lab Data Signature: / un olley Wellulu Me
	Self-Monitoring Other
	New Industrial User
	Needs Attention phone call, late data
submitted by	
submitted by	

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KALAMAZ J WATER RECLAMATION . LANT INDUSTRIAL USER SELF-MONITORING REPORT



(1) Facility:	Orchard Hill L 3378 Hennes				(2) Due Date:	January 10, 1	993
	Watervliet, M				(3) Sample Poi	nt Code: OHL	
(4) Location:	Septage Haule Pump Station		n at the City of	Kalamazoo Wat	ter Reclamation	Plant west of	the Raw Sewage
(5) Purpose fo	or Sampling:	□ Violation F			199 1 - December	· 31, 199 D	
(6) Sampling	Method:	91	1 4B				
(7) Date and	Time of Compo	osite Samples:	Start:		End:		
(8) Date and	Time of Grab S	Samples:	1/14/9	3 10	1:30 AM		
(9)			RES	SULTS			
Parameter	<u>Value</u>	<u>Units</u>	Sample Type*	Parameter	Value	<u>Units</u>	Sample Type *
Cadmium, T	L0.005	Mg/L	9,-AB	Mercury, T	L0:0005	M9/2	
Chromium, T	0,07	My/L		Cyanide, T	L0,02	<u> M9/L</u>	
Copper, T	0.34	my/L			8.6	_	
Lead, T	0.015	My/L		РСВ, Т	0.11	09/1	<u> </u>
Nickel, T	0,25	M9/L					
Zinc, T	1.06	mg/L				-	
* Sample Type	: G = Grab samp	le C = Composite	e Sample				
(10) Name of	Laboratory	KAr	(ABS		(Attacl	h copies of La	boratory Results)
(11) Flow: A	verage Daily_	800	2 C)	M	aximum Daily	2500C)
designed to who mana and belief, fine and in	to assure that qual ige the system, or t , true, accurate, an nprisonment for kn	ified personnel prop hose persons directl d complete. I am a owing violations.	perly gather and eva y responsible for ga ware that there are	sluate the information thering the information significant penalties	on submitted. Based ion, the information s s for submitting false	on my inquiry of ubmitted is, to the information, incl	ordance with a system the person or persons best of my knowledge uding the possibility of
Signature:	from	w M	Title:		-	Date: 5 Fc	<u>07C</u> -

Mail to:

AR Laboratories, Inc. 4425 Manchester Road Falamazo MI 49002

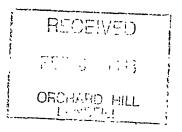
	_	
(616) 381-9666	\bigvee	

ANALYTICAL REPORT

To: Orchard Hills Landfill

3290 Hennesey Road Watervliet, MI 49098

Attn: Mr. Jerry Miller



Proj. No.: 930094 Client No.: 1208 Date Activated: 1/14/93 Date Promised: 2/04/93 Date Reported: 2/04/93

PO#:

Project Desc.: Analysis of one leachate sample.

Dear Client:

Attached you will find test results for Project No. 930094. Please refer to this Project No. if you have any questions regarding this work.

Respectfully submitted, KAR Laboratories, Inc.

Michael J. Jaeger

Director of Laboratories

Page 1

ANALYTICAL RESULTS

To: Orchard Hills Landfill Project No: 930094 Report Date: 2/04/93

Project Desc.: Analysis of one leachate sample.

Type:aqueous Rec'd: 1/14/93 Sample No.:930094-01 Sampled: 1/14/93

ID: "Leachate Grab, 10:30am"

< 0.005 mg/LCadmium, total Chromium, total 0.07 mg/L Copper, total 0.34 mg/L 0.015 mg/L Lead, total Mercury, total <0.0005 mg/L Nickel, total 0.25 mg/L Zinc, total 1.06 mg/L Cyanide, total <0.02 mg/L 8.6 S.U. p_h See attached MDNR Scan 1 & 2

Identified and PCB, total 0.11 ug/L quantified as

Aroclor 1242.

Unless otherwise noted, test results represent the sample(s) as they were received.

PURGEABLE HYDROCARBON ANALYSIS - Michigan DNR Scan 1 and/or 2

To: Orchard Hills Landfill Project No.: 930094
Report Date: 2/04/93

Proj. Desc.: Analysis of one leachate sample.

Sample No.:930094-01 Type:aqueous Rec'd: 1/14/93 Sampled: 1/14/93

Sample ID: "Leachate Grab, 10:30am"

SCAN 1 - Purgeable Halocarbons

Bromodichloromethane	<1	trans-1,2-Dichloroethene	1.1
Bromoform	<1	1,2-Dichloropropane	<1
Bromomethane	<1	cis-1,3-Dichloropropene	<1
Carbon tetrachloride	<1	trans-1,3-Dichloropropene	<1
Chlorobenzene	4.5	Methylene chloride	35
Chloroethane	<1	1,1,2,2-Tetrachloroethane	<1
Chloroform	<1	Tetrachloroethene	<1
Chloromethane	<1	1,1,1-Trichloroethane	<1
Dibromochloromethane	<1	1,1,2-Trichloroethane	<1
1,1-Dichloroethane	3.7	Trichloroethene	1.8
1,2-Dichloroethane	19	Trichlorofluoromethane	<1
1,1-Dichloroethene	<1	Vinyl chloride	14
cis-1,2-Dichloroethene	14	•	

SCAN 2 - Purqeable Aromatic Hydrocarbons

Зел.z ene	25	m-and/or p-Xylene	150
Ethyl benzene	66	o-Xylene	61
Toluene	270	_	

Concentrations are expressed as ug/L.

USEPA Method 8260

⁻⁻⁻ indicated not analyzed.

< (less than) indicates NOT DETECTED, followed by the limit of detection.

INSPECTIONNSTINGPHONE CONVERSA _ OBSERVATION
Name of Facility: <u>Orchand Hill Fundfill</u> Date: 1/14/93 Address: Time: 10:15 am Contact: Jerry Noules Phone: 1-463-5588
Contact: Verry nTilles
Phone: 1-463-5588
Sall Sall
Topic: Self montornà réport
Details: Was over looked - may have
some data or samples from the last
Details: Was over looked - may have Some data or samples from the last half of 1992
·
<u> </u>
Further Action Required:
Turder Action Required.
File: General Correspondence
Inspection
Lab Data Self-Monitoring Self-Monitoring
Self-Monitoring Other
New Industrial User
Needs Attention
submitted by

:. Orchard Hill Land fill

SMR 1/14/93 PCB 0.11 ug/1 (1242) Aug. Daily 8,000gal. Max. Daily 25,000gal

No Enforcement Activity in File

12/7/94 PCB 0.5 ng/1 (1242)
12/12/94 II 0.6 ng/1 (1242) SM-Comp.
12/15/94 II 0.5 ng/1 (1242)
12/28/94 LOV for 12/7 5/12/12 samples Corres. File
Avg. Daily 3,500 Max. Daily 16,600 gal.

Incidental - Letter in File from William Rauch to Mr. Dan Batts defending the results of KAR Labs PCB analyses. Tim Meulenberg & Ralph Balkema copied.

SKK



LETTER OF VIOLATION

DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 337-8157 FAX (616) 337-8699

Certified Mail # P 242 167 677

December 28, 1994

Mr. Ralph O. Balkema Orchard Hill Landfill 3378 Hennesy Road Watervliet, MI 49098

Dear Mr. Balkema:

We have recently received analytical results for grab samples collected from two (2) separate loads of Orchard Hill Landfill leachate. The load of leachate delivered to the City of Kalamazoo Water Reclamation Plant (KWRP) on December 7, 1994 contained 0.5 ug/l of PCB Aroclor 1242. The next load of leachate delivered on December 12, 1994 had 0.6 ug/l of PCB Aroclor 1242. The City of Kalamazoo Sewer Use Regulation 91-1, prohibits the discharge of PCBs to the KWRP.

An investigation of past and present uses of PCBs, indicates there are many potential sources that may be properly disposed into any Type II Landfill. PCBs are currently used in transformers and capacitors and were extensively used in fluorescent lamp ballasts manufactured before 1979. Only ballasts manufactured after 1979 require labeling if PCBs were used. Additional sources include: cutting oils, heat transfer and hydraulic fluids; carbonless copy paper; plasticizers in rubbers, synthetic resins, paints, adhesives and caulking compounds; dusting agents and fillers in casting wax.

As we discussed in our December 27, 1994 telephone conversation, Orchard Hill Landfill will be required to document there are no PCBs in every load of leachate delivered to the KWRP. A detection limit of 0.1 ug/l will be required on all analysis. If you have any questions regarding this matter, please call me at (616) 337-8716.

Sincerely,

Tim Meulènberg,

Industrial Services Supervisor

c:

B. DeMink

B. Merchant

B. O'Day

S. Rochow

file

P 242 167 677

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

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5	ORCHARD-HILL-LANDFI	LL
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USGPO 1989-234-555	WATERVILLE EUCHIGAN	49098
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KALAMAZ O WATER RECLAMA ON PLANT

INDUSTRIAL USER SELF-MONITORING REPORT

Orchard Hill Landfill Facility:

Due: January 10, 1995

3290 Hennesy Road Watervliet, MI 49098

Reporting Period: July 1, 1994 - December 31, 1994

Sample Code:

OHL

Hauled waste prior to or during discharge at the Kalamazoo Water Reclamation Plant. Location:

Monitoring Requirements:

<u>Pollutants</u>	<u>Daily Max.</u> <u>mg/L</u>	Results/Units	Sample Type
		4	
Cadmium, T	0.040	60.005 mg/L	Grab
Chromium, T	4.67	0.04 Mg/L	Grab
Copper, T	2.23	0.30 mg/s	Grab
Lead, T	0.110	0.30 mg/s <0.025 Mg/s	Grab
Nickel, T	1.59	O. 38 My/	Grab
Zinc, T	5.30	1.02 Mij fi	Grab
Cyanide, T	0.250	0,02 mg/c	Grab
Petroleum Hydrocarbon	100	2 mg/L	Grab
рН	6.2-9.8 S.U.	8.55 U.	Grab
Mercury, T	prohibited	LO. 0005Mg/2	Grab
PCBs, T	prohibited	Annual - Dec	Grab
TCLP		Annual - Dec	Grab
MDNR Scans 1 & 2		See Analytical	Grab

N/R indicates "Not Required" PLEASE ATTACH COPIES OF LABORATORY RESULTS

Flow Information: 3500 gs/lens Average Daily 16600 gs/ Maximum Daily

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

7-7-94 Date

Ralph O Balkema

KAR Laboratories, Inc. 4425 Manchester Road Kalamazoo, MI 49002

(616) 381-9666

ANALYTICAL REPORT

To: Orchard Hills Landfill

3290 Hennessey Road Watervliet, MI 49098

Attn: Mr. Ralph Balkema

JUL 7 1994

Proj. No.: 941826
Client No.: 2336
Date Activated: 6/21/94
Date Promised: 7/06/94
Date Reported: 7/06/94

PO#:

Project Desc.: Analysis of one leachate sample for IPP Monitoring.

Dear Client:

Attached you will find test results for Project No. 941826. Please refer to this Project No. if you have any questions regarding this work. Unless noted otherwise all tests were performed within the maximum U.S. EPA allowable holding times.

Respectfully submitted, KAR Laboratories, Inc.

Michael J. Jaeger Director of Laboratories KAR Laboratories, Inc. Page 1

ANALYTICAL RESULTS

To: Orchard Hills Landfill Project No: 941826
Report Date: 7/06/94

Project Desc.: Analysis of one leachate sample for IPP Monitoring.

Sample No.:941826-01 Type:aqueous Rec'd: 6/21/94

Sampled: 6/21/94 1:30pm By:ROB of Orchard Hills

ID: "Leachate"

Cadmium, total<0.005 mg/LChromium, total0.09 mg/LCopper, total0.30 mg/LLead, total<0.025 mg/L

Elevated detection limit due to sample matrix

interference.

 Mercury, total
 <0.0005 mg/L</td>

 Nickel, total
 0.38 mg/L

 Zinc, total
 1.02 mg/L

 Cyanide, total
 0.02 mg/L

 PH
 8.5 S.U.

 Petroleum hydrocarbons
 2 mg/L

MDNR Scan 1 & 2 See attached

Elevated detection limit due to sample matrix

interference.

Unless otherwise noted, test results represent the sample(s) as they were received.

PURGEABLE HYDROCARBON ANALYSIS - Michigan DNR Scan 1 and/or 2

To: Orchard Hills Landfill Project No.: 941826
Report Date: 7/06/94

Proj. Desc.: Analysis of one leachate sample for IPP Monitoring.

Sample No.:941826-01 Type:aqueous Rec'd: 6/21/94

Sampled: 6/21/94 1:30pm By:ROB of Orchard Hills

Sample ID: "Leachate"

SCAN 1 - Purgeable Halocarbons

Bromodichloromethane	<5	trans-1,2-Dichloroethene	<5
Bromoform	<5	1,2-Dichloropropane	< 5
Bromomethane	<5	cis-1,3-Dichloropropene	<5
Carbon tetrachloride	<5	trans-1,3-Dichloropropene	<5
Chlorobenzene	<5	Methylene chloride	23
Chloroethane	<5	1,1,2,2-Tetrachloroethane	<5
Chloroform	<5	Tetrachloroethene	<5
Chloromethane	<5	1,1,1-Trichloroethane	<5
Dibromochloromethane	<5	1,1,2-Trichloroethane	<5
1,1-Dichloroethane	<5	Trichloroethene	<5
1,2-Dichloroethane	50	Trichlorofluoromethane	< 5
1,1-Dichloroethene	<5	Vinyl chloride	<5
cis-1,2-Dichloroethene	33	-	

SCAN 2 - Purgeable Aromatic Hydrocarbons

Benzene	13	m-and/or p-Xylene	51
Ethyl benzene	20	o-Xylene	24
Toluene	190	-	

Concentrations are expressed as ug/L.

--- indicated not analyzed.

EPA Method 8260

< (less than) indicates NOT DETECTED, followed by the limit of detection.

KAR Laboratories, Inc.

4425 Manchester Road Kalamazoo, MI 49002

(616) 381-9666

ANALYTICAL REPORT

To: Kalamazoo Water Reclamation Plant

1415 N. Harrison

Kalamazoo, MI 49007

Attn: Mr. Tim Meulenberg

Proj. No.: 943746
Client No.: 0399
Date Activated: 12/08/94
Date Promised: 12/22/94
Date Reported: 12/22/94
PO#: 071565

Project Desc.: Analysis of an aqueous sample from Orchard Hills Landfill

KWRP #13304.

Dear Client:

Attached you will find test results for Project No. 943746. Please refer to this Project No. if you have any questions regarding our work. Unless noted otherwise all tests were performed within the maximum U.S. EPA allowable holding times.

Respectfully submitted, KAR Laboratories, Inc.

Michael J. Jaeger

Director of Laboratories

12/22/94

ANALYTICAL RESULTS

Page

1

To: Kalamazoo Water Reclamation Plant Project No: 943746

Re: Analysis of an aqueous sample from Orchard Hills Landfill KWRP #13304.

Sample ID: "Orchard Hill Landfill"

Sample Type: aqueous

Date/Time Sampled: 12/07/94 4:25pm

Sampled By: TM of KWRP Date Received: 12/08/94
Lab Sample No.: 943746-01

Parameter	Results	Units	Comments
PCB Aroclor 1016	<0.1	ug/L	
PCB Aroclor 1221	<0.1	ug/L	
PCB Aroclor 1232	<0.1	ug/L	
PCB Aroclor 1242	0.5	ug/L	
PCB Aroclor 1248	<0.1	ug/L	,
PCB Aroclor 1254	<0.1	ug/L	
PCB Aroclor 1260	<0.1	ug/L	
PCB Aroclors, total	0.5	ug/L	

Unless otherwise noted, test results represent the sample(s) as they were received.

KAR Laboratories, Inc.

4425 Manchester Road Kalamazoo, MI 49002

(616) 381-9666

ANALYTICAL REPORT

To: Kalamazoo Water Reclamation Plant

1415 N. Harrison

Kalamazoo, MI 49007

Attn: Mr. Tim Meulenberg

Proj. No.: 943778
Client No.: 0399
Date Activated: 12/12/94
Date Promised: 12/28/94
Date Reported: 12/22/94
PO#: 071565

Project Desc.: Analysis of an aqueous sample from Orchard Hills Landfill KWRP #13314.

Dear Client:

Attached you will find test results for Project No. 943778. Please refer to this Project No. if you have any questions regarding our work. Unless noted otherwise all tests were performed within the maximum U.S. EPA allowable holding times.

Respectfully submitted, KAR Laboratories, Inc.

Michael J. Jaeger

Director of Laboratories

12/22/94

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ANALYTICAL RESULTS

Page 1

To: Kalamazoo Water Reclamation Plant Project No: 943778

Re: Analysis of an aqueous sample from Orchard Hills Landfill KWRP #13314.

Sample ID: "Orchard Hill Landfill, OHL34694"

Sample Type: aqueous

Date/Time Sampled: 12/12/94 7:45am
Sampled By: SMR of KWRP
Date Received: 12/12/94
Lab Sample No.: 943778-01

Parameter	Results	Units	Comments
PCB Aroclor 1016	<0.1	ug/L	
PCB Aroclor 1221	<0.1	ug/L	
PCB Aroclor 1232	<0.1	ug/L	
PCB Aroclor 1242	0.6	ug/L	
PCB Aroclor 1248	<0.1	ug/L	
PCB Aroclor 1254	<0.1	ug/L	
PCB Aroclor 1260	<0.1	ug/L	
PCB Aroclors, total	0.6	ug/L	

Unless otherwise noted, test results represent the sample(s) as they were received.

KAR Laboratories, Inc.

4425 Manchester Road Kalamazoo, MI 49002

	^ ·
(616) 381-9666	

ANALYTICAL REPORT

To: Kalamazoo Water Reclamation Plant

1415 N. Harrison

Kalamazoo, MI 49007

Attn: Mr. Tim Meulenberg

Proj. No.: 943845 Client No.: 0399 Date Activated: 12/15/94 Date Promised: 12/30/94 Date Reported: 12/29/94 PO#: 071565

Project Desc.: Analysis of an aqueous sample from Orchard Hills Landfill

KWRP #13326.

Dear Client:

Attached you will find test results for Project No. 943845. Please refer to this Project No. if you have any questions regarding our work. Unless noted otherwise all tests were performed within the maximum U.S. EPA allowable holding times.

Respectfully submitted, KAR Laboratories, Inc.

Michael J. Jaeger

Director of Laboratories

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To: Kalamazoo Water Reclamation Plant Project No: 943845

Re: Analysis of an aqueous sample from Orchard Hills Landfill KWRP #13326.

Sample ID: "Orchard Hills Landfill, Mun. Pumping Station"

Sample Type: aqueous

Date/Time Sampled: 12/15/94 11:30am

Sampled By: SMR of KWRP Date Received: 12/15/94
Lab Sample No.: 943845-01

Parameter	Results	Units	Comments
PCB Aroclor 1016	<0.1	ug/L	
PCB Aroclor 1221	<0.1	ug/L	
PCB Aroclor 1232	<0.1	ug/L	
PCB Aroclor 1242	0.5	ug/L	
PCB Aroclor 1248	<0.1	ug/L	
PCB Aroclor 1254	<0.1	ug/L	
PCB Aroclor 1260	<0.1	ug/L	
PCB Aroclors, total	0.5	ug/L	

Unless otherwise noted, test results represent the sample(s) as they were received.

KAR Laboratories, Inc.

4425 Manchester Road Kalamazoo, Mi 49002



February 23, 1995

Orchard Hills Landfill 3290 Hennesey Road Watervliet, MI 49098

Attn: Mr. Dan Batts

Dear Mr. Batts:

I cannot over-emphasize my concern about the matter of the analysis for PCB's in leachate samples submitted to various laboratories. Apparently, KAR is the only lab you have found that is capable of detecting PCB in your leachate samples. Analytically speaking, it is very easy not to find PCB's in a sample, yet it is highly unlikely to analyze for PCB's and have a "false positive" result. I understand your dilemma - if you dispose of the waste on the assumption of no PCB's present supported by laboratory report(s) and later it is proven that the leachate does in fact contain PCB's then Orchard Hills Landfill will be ultimately responsible.

The key to sorting this out is asking the correct questions. Here's a few that need to be asked of the laboratories:

Staffing: Is the level of training and experience adequate for the analyst that analyzed your samples? Mark Zweifka, Sr. Chemist analyzed all your samples at KAR Labs. He has a B.S. in Chemistry from MSU and has 9 years of Gas Chromatography (GC) experience.

Competence: Has the operator that analyzed your samples demonstrated competence? This is a Method requirement and involves the analysis of a minimum of 4 replicate Laboratory Fortified Reagent Water samples. Precision and accuracy is established from this. This is often overlooked with staff turnover and vacation fills.

Detection Limits: Can it be proven that the analyst can "see" down to the low levels stated in the lab report? This is established with a Method Detection Limit Study (MDL Study). Mark Zwiefka has established a method detection limit of 0.02385-0.0310 ug/L prior to analyzing any of your samples. This proves Mark is capable of "seeing" down to the reporting level stated on our reports.

Accuracy: Were all necessary cleanup steps performed and what was the spike recovery at comparable levels? This is critical. Leachate samples typically contain sulfur and carboxylic acids which will interfere with the measurement process (negative bias - a result that is less than the true value) if not removed. Sulfur must be removed with a separate cleanup step and carboxylic acids must be removed with yet another cleanup step. All Orchard Hills leachate samples went through this process. If the cleanup steps are not performed then the result will likely be "non detect" for PCB's. The effectiveness of the cleanup is determined by spiking PCB into the sample at a concentration close to reporting level and measuring it to determine recovery. KAR Lab's recovery of Arochlor 1242 at the 0.1 ug/L spike level for extraction batches associated with your samples were 70%, 74%, 83%, 95%, 71% and 62%. This is acceptable recoveries for this type of sample matrix.

Precision: What is the true precision of low level positives? Precision measures the ability to reproduce the same result over and over again. Non-detectable amounts must not be included in this statistical analysis or it will heavily bias the result and make the measurement process appear better than it really is. For example, a lab could analyze several replicates, not find any PCB's and state that they have a precision of zero relative percent difference. KAR Lab's precision between duplicate analyses spiked with Arochlor 1242 at the 0.1 ug/L for extraction batches associated with your samples were 5.6, 13 and 14.9 relative percent difference. This is acceptable precision for this type of sample matrix.

Equipment: What equipment was used? The only equipment allowed in regulatory approved PCB methods that have the required sensitivity (EPA 608, 8080 or 8081) is the Gas Chromatograph with Electron Capture Detector (GC-ECD). GC-Mass Spec or GC-ELCD does not possess the sensitivity required for low-level PCB work. Dual-column confirmation is required on positive results. KAR uses a GC with dual-high resolution columns and dual ECD's. All positives were confirmed, qualitatively and quantitatively, on both columns.

Thank you for bringing this matter to my attention, and I am terribly sorry for the inconvenience this has caused you. What is contained in this letter is true to the best of my knowledge and nothing has been selectively omitted for the purpose of making our case. It seems ironic to me that KAR Labs can perform a method the hard way, the right way, with all the cleanup and quality control, and be at a competitive disadvantage to a laboratory that cuts corners to maximize profits. I urge you to contact us, especially William H. Bouma, Ph.D. for further advice on this problem. Dr. Bouma has over 20 years

KAR Laboratories, Inc.

Wastewater experience including Superintendent at Grand Rapids WWTP. We are here to help you in any way we can.

Sincerely,

William G. Rauch Technical Director

cc: R. Balkema, T. Meulenberg, W. Bouma

Proposed Plan Fact Sheet

Allied Paper, Inc./
Portage Creek/Kalamazoo River Superfund Site

12th Street Landfill Operable Unit No. 4 Allegan County, Michigan

Inside this Proposed Plan Fact Sheet:

- Background Information
- Remedial Investigation Results Summary
- Remedial Alternatives Summary
- Preferred Remedy for the 12th Street Landfill Operable Unit No. 4
- Evaluation of the Preferred Remedy Community Involvement Opportunities
- Glossary (defined terms appear as italic type)
- Mailing List/Comment Return Mailer

♦ Introduction **♦**

This Proposed Plan Fact Sheet describes the remedial alternatives being considered for the 12th Street Landfill Operable Unit (OU) No. 4 of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site. The 12th Street Landfill is located adjacent to the Kalamazoo River on 12th Street near Plainwell, Michigan (see map on Page 2). This Proposed Plan also identifies the nature and extent of contamination, the risks associated with the site. remedial alternatives, and the preferred remedial alternative along with a rationale for its preference.

This Proposed Plan is issued by the Michigan Department of Environmental Quality (MDEQ), the lead regulatory agency for this Superfund site, to fulfill the requirements of the Comprehensive Environmental Response, Compensation and Liability Act, 1980 PA 96-510, (CERCLA), Section 117(a). The MDEQ is provided technical support on this site by the United States Environmental Protection Agency (EPA).

A Public Meeting will be held Wednesday, August 13, 1997 at 7:00 PM.

At the Plainwell Comfort Inn (616-685-9891) located at 622 Allegan Highway in Plainwell, Michigan.

Comments may be submitted either verbally or in writing at the public meeting, or you can send written comments postmarked no later than August 30, 1997 to the MDEQ. Comments can also be E-mailed or faxed by August 30, 1997 (see Page 10 for MDEQ addresses and fax number).

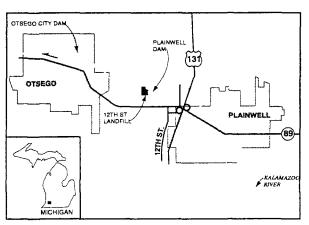
This Proposed Plan summarizes information that can be found in greater detail in the *Remedial Investigation (RI)* report, *Focused Feasibility Study (FFS)* report, other supporting documents prepared for the 12th Street Landfill, and the *Risk Assessment (RA)* report for the King Highway Landfill OU. The MDEQ believes that the analysis of risks related to paper residual disposal areas is reasonably characterized by the King Highway Landfill RA and can be applied to the 12th Street Landfill OU.

The public is encouraged to comment on the remedial alternatives described in Proposed Plan. To encourage public participation in the remedy selection process, the MDEQ has set a public comment period from August 1 through August 30, 1997 (see Community Participation Section on Page 9). The final remedy for the 12th Street Landfill will be jointly selected by the MDEQ and EPA. This will occur only after review and consideration of information provided during the public comment period. The final remedy, which will be presented in the Record of Decision (ROD), could differ from the Proposed Plan, depending upon new information or input the MDEQ may receive during the public comment period.

◆ Site Background ◆

Site History. The 12th Street Landfill OU is located adjacent to the Kalamazoo River in Otsego Township, approximately 1½ miles northwest of the city of Plainwell in Allegan County, Michigan. More specifically, it is located in the middle of Section 24, Township 1N, Range 12W. The site characteristics are shown on the site map (Page 3). The 12th Street Landfill was used from 1955 to 1981 for the disposal of papermaking *residuals*. The residuals consist mostly of water, wood fiber, and clay. It is

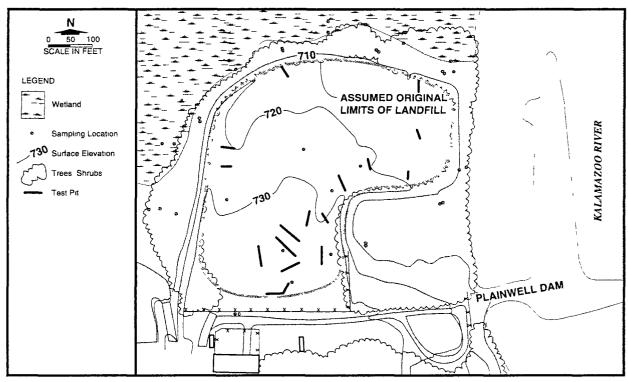
believed that polychlorinated biphenyls (PCBs) were introduced into the residuals between 1957 and 1962 as a result of the recycling of carbonless copy paper during operations at a paper mill now owned by Simpson Plainwell Paper Company. PCBs are considered a hazardous substance and probable human carcinogen.



Site location map

The 12th Street Landfill was covered with soil and seeded in 1984. The top is now vegetated by grass and shrubbery. The north, east, and west sides of the landfill contain PCB-contaminated residuals that have the potential to erode into the environment.

RI/FFS Background. RI activities were conducted at the 12th Street Landfill by the Kalamazoo River Study Group (KRSG) whose members include Georgia-Pacific Corporation, Allied Paper, Inc./HM Holdings, Simpson Plainwell Paper Company, and James River Corporation. KRSG members have been identified as potentially responsible parties and have agreed to conduct the RI/FFS on the site under an Administrative Order by Consent. The RI was completed in four phases, consisting of a test pit investigation conducted in May 1993; soil and groundwater



Site layout map

sampling conducted from July through September 1993; river sediment sampling conducted in June 1994; and a supplementary groundwater sampling event conducted in August 1995.

Investigation Findings. The 12th Street Landfill is comprised primarily of papermaking residuals, with a small amount of construction debris at the south end of the site. A thin surface layer of residuals extends beyond the side of the 12th Street Landfill into the wetlands to the north and west and into the open area to the southeast. Residuals contiguous to the landfill are also present to the east along the river bank and extend into the Kalamazoo River. The total volume of residuals and construction debris in the landfill is estimated to be 208,000 cubic yards. The volume of residuals extending beyond the landfill boundary is estimated to be 2,300 cubic yards.

Sixteen test pits were excavated within the 12th Street Landfill OU to evaluate the causes of electric/magnetic anomalies at the site. The test pits were excavated with a backhoe to an estimated depth of 2 feet above the landfill base. The results of the test pit investigation indicated the electric/magnetic anomalies to be a result of wire, several empty drums and construction debris buried within the landfill.

RI activities conducted at the 12th Street Landfill OU also included the completion of 14 hand-auger borings; 22 soil borings; 15 groundwater monitoring wells; 3 leachate monitoring wells; and two river gauges. Sample locations are shown on the Site Layout Map.



Top of 12th Street Landfill covered with native grasses

PCBs are the primary constituent of concern at the 12th Street Landfill. PCBs have been detected in the residuals, but not in groundwater at the site. In general, lower PCB concentrations are found in the shallow residuals (7.2 milligrams per kilogram [mg/kg] average for the 2 to 18 foot depth interval), relative to deep residuals (42.4 mg/kg average for the 18 to 28 foot depth interval). The average and maximum detected PCB concentrations are 19 mg/kg and 158 mg/kg, respectively. Soils directly beneath the landfill were found to contain PCBs at concentrations one to two orders of magnitude (10 to 100 times) lower than residuals immediately above them. Samples of residuals collected from the Kalamazoo River bottom adjacent to the landfill averaged 23 mg/kg. Additional information regarding constituents present at the 12th Street Landfill is provided in the RI report and supporting documents.

◆ Evaluation of Site Risks ◆

The RI report for the 12th Street Landfill concluded that PCBs are present in surface soils and residuals outside of the landfill boundary. Similarly, the RI report for the King Highway Landfill OU, another landfill

that is part of this Superfund site, indicated there to be comparable levels of PCBs in surface soils and residuals outside of the landfill boundary at that site.

An RA was conducted for the King Highway Landfill OU to assess the human health and environmental risks that could result if the site were not remediated. Due to the similarities between the King Highway Landfill OU and the 12th Street Landfill OU, the RA for the former was used to assess human health and environmental risk at the 12th Street Landfill. The results of the King Highway Landfill OU RA indicated that the primary exposure pathway to be addressed by the site remedy was the potential release of PCB-containing residuals to the Kalamazoo River. addition, the RA results indicate that if the site is not remediated, PCBs in surface soils and residuals outside the landfill boundary represent a potential risk to workers and trespassers at the landfill, and to anglers along the river adjacent to the landfill. Although the PCB uptake potential of plants is low, animals may accumulate harmful levels of PCBs through the food chain. Several animal burrow holes were observed within the 12th Street Landfill during the RI.

Based upon the overall similarity of the physical characteristics and chemicals of concern present at the 12th Street Landfill and King Highway Landfill OUs, the findings from the RA conducted for the King Highway Landfill OU are relevant to the 12th Street Landfill OU.



East edge of 12th Street Landfill site along Kalamazoo River

Comparison of Risks and Remediation Goals. Actual or threatened releases of hazardous substances from this site, if not addressed by the preferred alternative, may present a potential threat to public health, welfare, or the environment. The primary exposure pathway to be addressed by remedial alternatives is the potential exposure to PCBs in surface soils and residuals outside of the landfill boundary within the wetlands, adjacent areas and the Kalamazoo River. The main remediation goal is therefore to restrict exposure to, and migration of, the PCB-containing residuals at the site.

◆ Presumptive Remedy Approach ◆

To accelerate remedial action implementation, the MDEQ supports the use of a containment type (i.e., landfill capping) presumptive remedy for this landfill OU. Presumptive remedies are preferred remedial technologies for certain types of sites, such as landfills, based on EPA's experience with remedy selection and performance. The preferred alternative identified in this proposed plan was developed in accordance with EPA guidance on developing and using presumptive remedies at Superfund sites.

As reflected in the King Highway Landfill FFS, which evaluated seven (7) types of remedial technologies and sixty (60) different process options, containment was determined to be the most appropriate type of remedy for restricting exposure to, and migration of, the PCB-containing residuals at that site. Based on the close similarities between the two OUs, a containment presumptive remedy is also appropriate for the 12th Street Landfill OU.

A more detailed discussion on the rationale for using a presumptive remedy approach for the 12th Street Landfill OU is presented in the FFS report.

◆ Summary of Remedial Alternatives ◆

A feasibility study under the presumptive remedy approach is streamlined by limiting the remedial alternatives evaluation to the no-action alternative and the presumptive remedy alternative. Thus, for the 12th Street Landfill OU, the following two alternatives were developed:

Alternative 1: No-Action

Alternative 2: Landfill Closure (consolidation of outlying residuals, landfill cap, institutional controls)

The two alternatives are described below.

Alternative 1: No-Action

Alternative 1 is the no-action alternative and serves as the basis against which other alternatives (in this case, the presumptive remedy) are compared. Under this alternative, existing controls (e.g., soil cover) would continue to be used to contain residuals at the landfill, with no additional provisions for monitoring of the environmental media surrounding the landfill. According to the *National Contingency Plan (NCP)*, the no-

action alternative must be assessed as part of the detailed analysis of remedial alternatives.

There are no capital or operation and maintenance (O&M) costs associated with the implementation of the no-action alternative.

Cost and Implementation Time Frame for Alternative 1: No-Action

Capital Costs = \$0

O&M Costs = \$0/yr

Net Present Worth = \$0

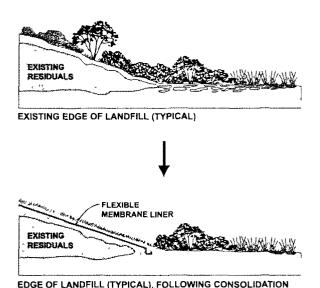
Implementation Time Frame = Not
Applicable

Alternative 2: Landfill Closure

Alternative 2 is the landfill closure alternative. This alternative includes the following remedial components:

- Consolidation of PCB-contaminated residuals present beyond the landfill boundaries into the main body of the landfill prior to capping.
- Regrading the landfill surface as necessary to promote proper drainage and containment of the enclosed materials.
- Installation of a flexible membrane liner landfill cap in compliance with Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), to contain/isolate residual materials and prevent water infiltration.
- Site fencing and access limitations.
- Deed restrictions to limit future land use at the site.

• Implementation of a long-term monitoring program to ensure effectiveness of the remedy and determine the need for repair.



AND LANDFILL CAPPING

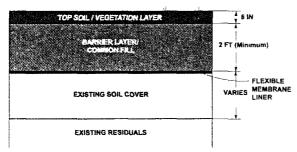
Proposed residual consolidation, landfill

capping and revegetation

Prior to installing the landfill cap, the residuals present outside of the landfill boundaries will be consolidated into the main body of the landfill. These outlying residuals include those which extend into the wetlands located immediately to the north and west of the landfill and east along the banks, as well as those which extend into the Kalamazoo River.

Following consolidation activities. landfill will be capped in accordance with the requirements for a Type III landfill (i.e., industrial waste landfill) under Part 115 of The final cover will be the NREPA. comprised of an erosion layer underlain by a barrier layer. The erosion layer will consist of a minimum of 6 inches of top soil suitable for supporting native plant growth. For the 12th Street Landfill, the barrier layer shall be comprised of a 30 mil thick low permeability flexible membrane liner that is properly sloped and overlaid by a frost protection layer thick enough to provide adequate freeze/thaw protection (at least 2 feet of soil). The necessity of a gas venting layer will be considered during remedial design. The proposed composition of the Part 115 of the NREPA landfill cap is illustrated on the figure below.

To increase the stability of the Kalamazoo River side of the 12th Street Landfill and provide erosion control, Alternative 2 includes the potential placement of erosion control materials (e.g., *rip-rap*, berms) along the river-side and along the other side slopes of the landfill. The portion of the landfill side slopes to be stabilized, if any, will be determined during remedial design.



Proposed landfill cap composition

In addition to consolidating the outlying residuals and capping the landfill, this alternative also includes institutional controls to limit site access and future land use. These will include permanent site fencing and execution of deed restrictions. Lastly, a long-term groundwater monitoring program will be developed and implemented to assess the effectiveness of the landfill cap in preventing potential off-site migration of contaminants.

Cost and Implementation Time Frame for Alternative 2: Landfill Closure

Capital Costs = \$1,655,040 O&M Costs = \$14,000/yr Net Present Worth = \$1,828,800 Implementation Time Frame = One year or less

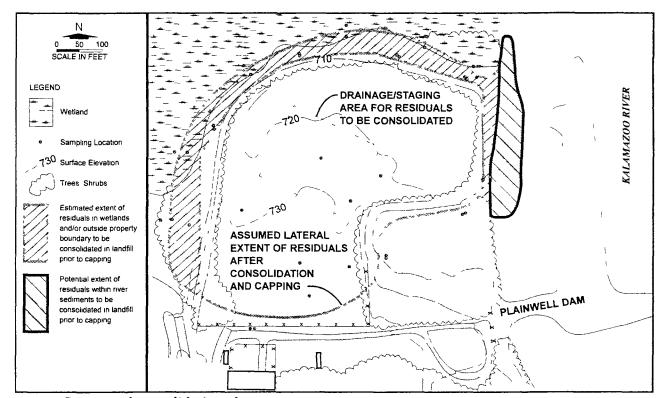
◆ Evaluation of Alternatives and the Preferred Alternative ◆

Preferred Alternative - As concluded from the results of the FFS, the preferred alternative for remediating the 12th Street Landfill OU is Alternative 2 - Landfill Closure including consolidation of outlying residuals, Part 115 of the NREPA landfill cap, and institutional controls. Based on information currently available, this preferred alternative best satisfies the nine criteria used to evaluate alternatives, as discussed below.

Evaluation Criteria - In accordance with EPA guidance and the NCP, the remedial alternatives were evaluated against the nine evaluation criteria listed below:

- 1. Overall protection of human health and the environment.
- 2. Compliance with applicable or relevant and appropriate requirements (ARARs).
- 3. Long-term effectiveness and permanence.
- 4. Reduction of toxicity, mobility, or volume through treatment.
- 5. Short-term effectiveness.
- 6. Implementability.
- 7. Cost.
- 8. Support agency acceptance.
- 9. Community acceptance.

The nine evaluation criteria are grouped into three categories as follows: threshold criteria, primary balancing criteria, and modifying criteria. The threshold criteria include the minimum requirements that must be met by a selected remedy. The primary balancing criteria are used to assess the main trade-offs between the remedial alternatives. The



Conceptual consolidation plan

modifying criteria are used to assess support agency and community acceptance following public comment on the Proposed Plan. The following presents a profile of Alternatives 1 and 2 evaluated against the nine criteria.

Overall Protection of Human Health and the Environment (Threshold Criterion) - This criterion assesses whether alternatives adequately protect human health and the environment. The degree to which an alternative eliminates, reduces, or controls the risk to human health and the environment through treatment, engineering, or institutional controls is assessed using this criterion.

Alternative 2 would provide adequate protection of human health and the environment by eliminating, reducing, or controlling current site risks through consolidation of outlying residuals, construction of an engineered landfill cap, side slope stabilization and/or erosion control, and institutional controls.

Alternative 1 would not provide any administrative or control measures for ensuring that exposure to. or off-site migration of, the residuals does not occur. Thus, Alternative 1 would not provide adequate protection of human health and the environment. Because Alternative 1 does not satisfy this threshold criterion, it is not eligible for selection as the site remedy and does not need to be assessed against the remainder of the evaluation criteria.

Compliance with ARARs (Threshold Criterion) - This criterion determines whether a remedial alternative meets all of its ARARs under federal and state laws and, if not, whether an ARAR waiver is justified. Alternative 2 would meet the substantive requirements of all ARARs, including Part 115 of the NREPA, landfill capping requirements, and Part 201 of the NREPA, environmental response requirements.

Long-Term Effectiveness and Permanence (Primary Balancing Criterion) - This criterion assesses whether a remedial alternative would

carry a potential, continual risk to human health and the environment after implementation of the remedial action. Alternative 2 would provide a high degree of long-term effectiveness and permanence through consolidation of the outlying residuals, installation and maintenance of a Part 115 of the NREPA landfill cap containment system, erosion control features. monitoring, and institutional controls.

Reduction of Toxicity, Mobility, or Volume Through Treatment (Primary Balancing Criterion) - This criterion assesses to what degree a remedial alternative, by utilizing treatment technologies, would permanently and significantly reduce the toxicity, mobility or volume of the hazardous substances at the site. Neither alternative would employ remedial measures that would reduce the toxicity, mobility, or volume through treatment.

Short-Term **Effectiveness** (Primary Balancing Criterion) - This criterion assesses the degree to which human health and the environment would be impacted during the construction and implementation of the remedial alternative. Alternative 2 has some potential short-term impacts associated with dust-borne and/or surface run-off releases of residuals during consolidation and landfill capping activities. To minimize potential short-term impacts, remedy implementation will be conducted in accordance with proper health and safety procedures. For example, strict dust control provisions will be taken to minimize worker exposure and off-site migration of residuals. During implementation of Alternative consolidation activities will be conducted in a manner to minimize impact to surface water quality.

Implementability (Primary Balancing Criterion) - This criterion assesses the

technical and administrative feasibility of implementing a remedial alternative and the availability of services and materials required during implementation. The remedial components comprising Alternative 2 could all be readily implemented and reliably designed and constructed. It is projected that this alternative could be implemented within a 12 month period.

Costs (Primary Balancing Criterion) - This criterion assesses the capital costs, O&M costs, and total present worth associated with implementing a remedial alternative. The capital cost associated with implementing Alternative 2 is estimated to be \$1,655,040. The annual O&M costs associated with Alternative 2 are estimated to be \$14,000/year. By applying a 7 percent discount rate over a 30 year implementation period, the total present worth associated with Alternative 2 is estimated to be \$1,828,800.

Support Agency Acceptance (Modifying Criterion) - This criterion indicates whether the EPA, based on its review of the Proposed Plan and comparison with Federal Laws. concurs with, opposes, or has no comment on the preferred alternative.

Community Acceptance (Modifying Criterion) - This criterion assesses the issues and concerns the public may have regarding each of the remedial alternatives. The assessment of community acceptance will be made after completing the public comment period in which the public will have an opportunity to comment on this Proposed Plan.

◆ Community Participation ◆

The MDEQ is requesting your input on the remediation methods described in this Proposed Plan. A 30-day public comment period begins on August 1 and continues through August 30, 1997. A public meeting

will be held during the comment period where the MDEQ will present the Proposed Plan and accept both written and oral comments. The public meeting is scheduled for August 13, 1997. Comments can be sent postmarked no later than August 30, 1997 to the MDEQ address listed below. Comments can also be E-mailed or faxed by August 30, For your convenience, a mailing 1997. list/comment return mailer is attached to this document. The MDEQ's response to relevant public comments will be provided in the Responsiveness Summary section of the ROD.

This document is issued under Section 117(a) of CERCLA and was prepared in accordance with the EPA's Guidance on Preparing Superfund Decision Documents.

To send comments or obtain further information, please contact:

Mr. Scott D. Cornelius, Project Manager MDEQ Environmental Response Division Superfund Section P.O. Box 30426
Lansing, Michigan 48909
(517) 373-7367 phone
(518) 335-4887 fax
E-Mail Address: cornelis@deq.state.mi.us

U.S. EPA Contact:

Mr. Richard Boice Remedial Project Manager U.S. EPA, Region 5 77 West Jackson Boulevard Chicago, Illinois 60604 (312) 886-4740 phone (800) 621-8431 switchboard

Locations of the Site Information Repositories

Allegan Public Library 331 Hubbard Street Allegan, Michigan (616) 673-4625

Kalamazoo Public Library 315 South Rose Kalamazoo, Michigan (616) 342-9837

Charles Ransom Library 180 South Sherwood Plainwell, Michigan (616) 685-8024

Otsego District Library 219 South Farmer Otsego, Michigan (616) 694-9690

Saugatuck-Douglas District Library Center Street Douglas, Michigan 49406 616-857-8241

Waldo Library Western Michigan University Kalamazoo, Michigan (616) 387-5156

Glossary

Applicable or Relevant and Appropriate Requirements (ARARs) - the Federal and State requirements that a selected remedy will attain These requirements may vary between alternatives

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) - CERCLA. or more commonly "Superfund", was authorized by Congress in 1980 and established the National Priorities List (NPL), the National Contingency Plan (NCP), and a system of liability for potentially responsible parties (PRPs) to remediate or pay for remediation at hazardous waste sites

Part 115 of the NREPA - Michigan's Solid Waste Management Program

National Contingency Plan (NCP) - the Federal regulation that sets the framework for the Superfund program The NCP identifies the governmental organizations involved in the remedial response, outlines their roles and responsibilities, and discusses the interrelationships of these organizations. In addition, the NCP provides guidelines for planning and conducting response activities

National Priorities List (NPL) - 1s the EPA's list of uncontrolled or abandoned hazardous waste sites eligible for long-term cleanup under the Superfund Remedial Program

Operable Unit (OU) - A discrete component of a Superfund site, segregated by such characteristics as geographical location or environmental medium

Polychlorinated Biphenyls (PCBs) - a class of 209 discrete chemical compounds, in which one to ten chlorine atoms are attached to a biphenyl molecule PCBs are a hazardous substance and probable human carcinogen PCBs also bioaccumulate in the food chain and are very persistent in the environment

Record of Decision (ROD) - a public document that explains which cleanup alternative will be used at a National Priorities List site and the reasons for choosing the cleanup alternative over other possibilities

Remedial Investigation/Focused Feasibility Study (RI/FFS) - two distinct but related studies normally conducted together, intended to define the nature and extent of contamination at a site and to evaluate appropriate, site-specific remedies

Residuals - byproducts associated with the manufacturing of paper

Rip-Rap an erosion control measure consisting of large rocks placed along a river bank

Risk Assessment - an assessment which provides an evaluation of the risk to human health and the environment in the absence of remedial action

Total Present Worth - an economic term used to describe today's cost for a Superfund cleanup and reflect the discounted value of future costs A total present worth cost estimate includes construction and future operation and maintenance costs

Type III Landfill - A sanitary landfill that is not a municipal solid waste landfill or a hazardous waste landfill According to *Part 115 of the NREPA* commercial/demolition waste landfills and industrial waste landfills are classified as Type III

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MAILING LIST / PUBLIC COMMENT RETURN MAILER

If you did not receive this Proposed Plan Fact Sheet by mail, you are not on the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site mailing list. If you wish to be placed on the mailing list, please print your name and address below, and then fold, tape, stamp, and mail this form to:

MDEQ-ERD Superfund Section PO Box 30426 Lansing, Michigan 48909-7926

NAME:	
ADDRESS:	
CITY/STATE:	ZIP:
REPRESENTING:	
DAY-TIME PHONE NUMBER:	
KHL-OU	Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site
Or you may contact Mr. Scott Cornelius of the MDE	A3.
Superfund site and the proposed remedial action de Unit. You may use the space below to comment on the August 30, 1997 to the MDEQ Project Manager or a	arding the Allied Paper, Inc./Portage Creek/Kalamazoo River escribed in this Proposed Plan for the 12th Street Landfill Operable this Proposed Plan. You may mail your comments on this form by attend the Public Meeting scheduled for August 13, 1997, and ay also call the Project Manager at the number provided above.

Fold on dashed lines, tape, stamp, and mail	Place
Name	Stamp
Address	Here
City & State	
Zip	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY ERD - SUPERFUND SECTION PO BOX 30426 LANSING, MI 48909-7926

Lansing, MI 48909-7926

MDEQ ERD-SUPERFUND SECTION

241 W. South Street Wastewater Department Mr. Robert DeMink Kalamazoo, MI 49007-4796 City of Kalamazoo

5 29



A Public Meeting will be held Wednesday, August 13, 1997 at 7:00 PM.

At the Plainwell Comfort Inn (616-685-9891) located at 622 Allegan Highway in Plainwell, Michigan.

Comments may be submitted either verbally or in writing at the public meeting, or you can send written comments postmarked no later than August 30, 1997 to the MDEO. Comments can also be E-mailed or faxed by August 30, 1997 (see Page 10 for MDEQ addresses and fax number).

Revised Proposed Plan Fact Sheet

King Highway Landfill Operable Unit 3

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Kalamazoo, Michigan

Inside this Revised Proposed Plan Fact Sheet:

- Background Information
- · Remedial Investigation Results Summary
- Modifications to the Preferred Alternative
- Community Involvement Opportunities
- · Glossary (defined terms appear as italic type)
- · Mailing List/Comment Return Mailer

◆ Introduction ◆

On September 14, 1994, the Michigan Department of Environmental Quality (MDEQ) issued the original Proposed Plan for the King Highway Landfill Operable Unit 3 (KHL-OU 3) of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site. The preferred alternative selected for the KHL-OU 3 is Alternative 1 - Landfill Closure (i.e., Containment and Capping). However, based upon additional remedial investigation (RI) data, modifications have been made to the preferred alternative which could not have been reasonably anticipated by the public.

In accordance with Section 117(b) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Section 300.430(f)(2)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the MDEQ has issued this revised Proposed Plan which describes the modifications made to the preferred alternative, Alternative 1 - Landfill Closure (i.e., Containment and Capping), and is seeking additional public comment on the proposed modifications to Alternative 1.

This document is issued by the MDEQ, the lead agency for activities at this *Superfund* site. Region 5 of the United States Environmental Protection Agency (EPA)

is providing technical support for this response action. The MDEQ, in consultation with the EPA, will select a final remedy for the KHL-OU 3 only after the public comment period has ended and the information submitted during this time has been reviewed and considered. The public is encouraged to submit comments specifically on the following changes:

- 1. Consolidation of *Polychlorinated Biphenyl (PCB)*contaminated *residuals*, soil, and sediments from the
 adjacent floodplains of the King Street Storm Sewer
 (KSSS) into Cell 4 of the King Highway Landfill
 (KHL). Verification sampling will be conducted, and
 if the MDEQ's unrestricted residential cleanup
 criteria of 2.3 *parts per million (ppm)* is achieved, the
 action will be accepted as a final remedy. If this
 criteria is not achieved, the PRPs will propose, within
 45 days, specific additional actions, including an
 implementation schedule, that will be taken to
 achieve any of the appropriate state cleanup criteria;
- 2. Consolidation of *PCB*-contaminated *residuals* and sediments from the adjacent Kalamazoo River into Cell 4 of the KHL as an *interim response action* using visual criteria;

A Public Meeting will be held Wednesday, July 16, 1997 at 7:00 p.m. in the Colt Center (616-388-9381) located at 2107 North 26th in Comstock, Michigan

Comments may be submitted either verbally or in writing at the public meeting, or you can send written comments postmarked no later than July 30, 1997, to the MDEQ (address on page 9)



- Consolidation of PCB-contaminated residuals and soils from the Georgia-Pacific former lagoons 1, 2,
 4, and 5 (five former lagoons) as a final remedial action with a proposed cleanup standard for PCBs of 21 ppm and land use restrictions; and
- 4. The associated *Toxic Substance Control Act* (TSCA) waiver for removal and placement of residuals with PCB concentrations of 50 ppm or greater into Cell 4 of the KHL.

All comments should be directed to the MDEQ Project Manager (see Community Participation section on page 9). The remedy, as presented in the Record of Decision (ROD), could differ from this revised Proposed Plan, depending upon new information or input the MDEQ and the EPA receive during the public comment period.

◆ History of the KHL-OU 3 ◆

The Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site (site) is located in Kalamazoo and Allegan Counties, Michigan. This site includes three miles of Portage Creek, from Cork Street to its confluence with the Kalamazoo River, and 80 miles of the Kalamazoo River, from Morrow Lake Dam downstream to Lake Michigan. The site also includes five paper mill properties and five residuals disposal areas. These five disposal areas have been organized into four Operable Units (OUs). One of these OUs is the KHL-OU3.

The KHL-OU3 is located in the city of Kalamazoo, Kalamazoo Township, Kalamazoo County, Michigan. More specifically, it is located in the north half of the northeast quarter of Section 23, Township 2S, Range 12W. This OU encompasses the entire KHL, the Kalamazoo River immediately adjacent to the east and north sides of the KHL, and the KSSS floodplains adjacent to the west side of the KHL. This revised Proposed Plan also includes the remedial action for the five former lagoons. Although the five former lagoons are not included in the KHL-OU3, they are contained within the site and located immediately north of the KHL across the Kalamazoo River (see Figure 1).

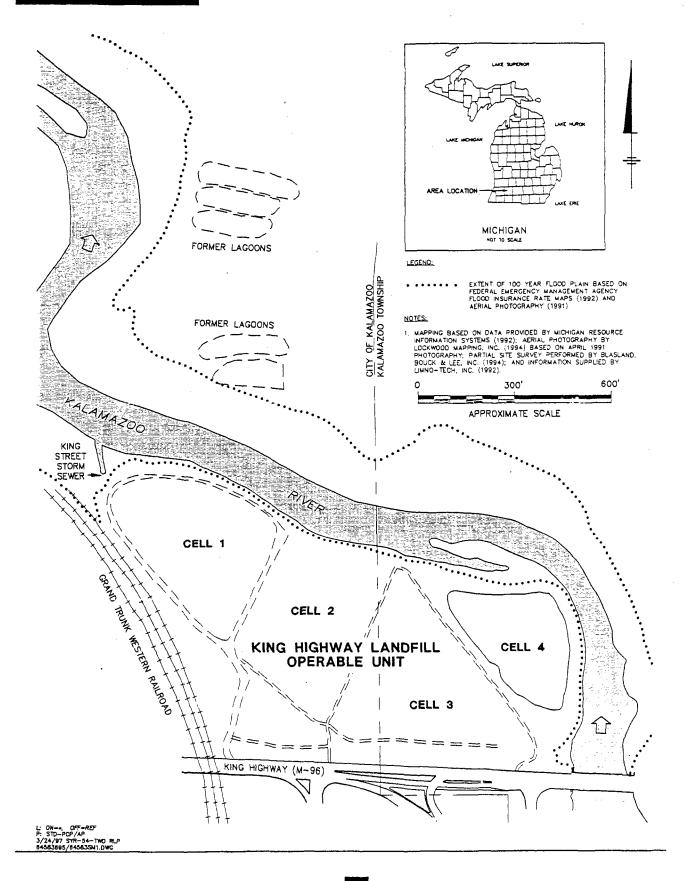
◆ Site History ◆

The presence of *PCBs* in the KHL and in the five former lagoons is attributable to the recycling of office waste paper by the Georgia-Pacific Corporation Kalamazoo Paper Mill. During the period from 1957 until 1971, PCBs were used in the production of carbonless copy paper. This carbonless copy paper, which was manufactured elsewhere, became a component of office waste paper which found its way to recycling mills such as that owned by Georgia-Pacific. During the recycling process, which included de-inking and repulping, PCBs were released from the carbonless copy paper and were distributed into new paper products or became part of the paper mill's waste stream. Although the use of PCBs in the manufacturing of carbonless copy paper was discontinued in 1971, the sale of carbonless copy paper that contained PCB continued until the product was sold out. Also, studies indicate that the PCBs from carbonless copy paper were incorporated into new paper products by the recyclers. Consequently, Georgia-Pacific's Mill waste stream is believed to have contained PCB for several years after 1971.

Georgia-Pacific and the prior owner recycled paper at two mills on the premises during the 15-year period when *PCBs* were used in the manufacture of carbonless copy paper. Process wastewater from these mills was routed to a clarifier. The clarifier effluent was pumped directly into the Kalamazoo River (i.e., the site) until 1964 when it was re-routed to the city of Kalamazoo Wastewater Treatment Plant.

The underflow from the clarifier, known as residuals, was dewatered and disposed of at various locations over the years. These residuals are primarily a mixture of clay and wood fiber. Some of these residuals, particularly those generated from the late 1950s through the early 1970s, are contaminated with PCBs. From 1955 until the late 1950s, the residuals were placed in the five former lagoons next to the primary clarifier on the north side of the Kalamazoo River. In the late 1950s, residuals were sent to the King Highway lagoons (later these lagoons became the KHL) on the south side of the Kalamazoo River for dewatering. After this change, the five former lagoons were used only as an emergency backup system.

Figure 1 - King Highway Landfill Operable Unit



The King Highway lagoons were granted a landfill construction permit by the Michigan Department of Natural Resources (MDNR) in June 1982 and became the KHL. Cells 1, 2 and 3 of the KHL were first granted an operating permit by the MDNR in 1983 under what is now Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, (NREPA) as a solid waste landfill. In May 1995, the KHL solid waste landfill license was renewed. Starting in 1987, Georgia-Pacific Corporation used the KHL for the disposal of dewatered residuals. It should be noted that although Cell 4 contains residuals from the dewatering process, it was never licensed as part of the solid waste landfill.

The KHL covers 23.2 acres and consists of four cells. The RI data indicates that the KHL is a monofill of residuals contaminated with PCBs with an estimated volume of 282,000 cubic yards. The primary constituent of concern at the KHL-OU3 and the five lagoons is PCB. In Cells 1, 2, and 3 the PCB concentrations generally increase with depth. The maximum concentrations found in the top 16 feet of residuals in Cells 1, 2, and 3 was 8.8 ppm. Concentrations over 50 ppm were detected at depths of 16 to 30 feet. The maximum concentration in the residuals is 310 ppm.

◆ Summary of RI Results ◆

The KHL-OU3 RI was performed from July 1993 to August 1994 by the Potentially Responsible Parties, known as the Kalamazoo River Study Group, whose members include Georgia-Pacific Corporation, Allied Paper, Inc./HM Holdings, Simpson Plainwell Paper Company, and James River Corporation.

Based upon comments from the Citizens Advisory Committee on the RI for the KHL-OU 3, some additional investigation was conducted on groundwater and residuals in Cell 4.

During the same time period, RI data were collected from the five former lagoons as part of the Paper Mill investigation. The additional RI data indicated that the five former lagoons were potential sources of PCB contamination to the Kalamazoo River and its floodplain. The additional RI data also indicated that PCBs were not in the groundwater at the KHL-OU3.

This supports the findings of the earlier RI groundwater data.

The results of an additional 53 samples from Cell 4 show that *PCB* concentrations in the *residuals* range from 0.19 *ppm* to 69 *ppm*.

The soils directly below the KHL-OU 3 had a maximum PCB concentration of 9.9 ppm. Soil borings taken from the KSSS floodplain immediately west of the KHL-OU 3 during the RI in addition to pre-RI data indicate PCB levels that range from 0.37 to 99 ppm. The maximum PCB concentration found on the KHL berms was 77 ppm.

Five surficial samples collected during the RI of the five former lagoons detected PCB concentrations ranging from 0.2 to 110 ppm. PCBs were also detected in three subsurface residuals samples in the former lagoons at concentrations from 3.4 to 70 ppm. Five soil samples from below the lagoons contained PCB levels in the range of 0.043 to 2.9 ppm.

Beneath the landfill, the direction of groundwater flow is normally north-to-northwest toward the Kalamazoo River. The gradient and flow direction are influenced by the Kalamazoo River. *PCBs* were not detected in any of the additional groundwater samples. This confirms the earlier findings of non detection of *PCB* in groundwater, although *PCBs* were detected in a leachate sample.

PCB-contaminated residuals and soils at the KSSS and the five former lagoons serve as surface runoff pathways of PCBs to the Kalamazoo River. The landfill berms at Cell 4 are subject to erosion by the continuous flow of the Kalamazoo River. The possibility of failure of the berms located between the Kalamazoo River and KHL Cell 4 is considered a potential threatened release.

◆ Summary of 1994 Proposed Plan ◆ and Subsequent Response

The MDEQ, in accordance with Section 117 of *CERCLA*, issued the original Proposed Plan for the KHL-*OU* 3 and held a public meeting on September 14, 1994. The public comment period was open from September 14, 1994 to November 14, 1994. As part of the Alternatives Array Document development

process, a total of seven potentially applicable technology types (e.g., in-situ containment/control, removal, etc.), which incorporated 60 different process options (e.g., capping, excavation, etc.), were screened with respect to technical implementability. It should be noted that as part of this preliminary screening, the 'no action' alternative (which is typically incorporated into a *Focused Feasibility Study* for comparative purposes) was eliminated from further consideration since it would not control potential migration of *PCB*-contaminated *residuals*.

The original Proposed Plan presented three alternatives:

- Alternative 1 Landfill Closure (Containment and Capping in accordance with Part 115 of the NREPA and dike stabilization);
- Alternative 2 Removal and Disposal of Residuals; and
- Alternative 3 Removal, Treatment, and Disposal of Residuals.

Alternative I was selected as the preferred alternative. The area to be addressed by the original Proposed Plan was limited to the KHL and the areas immediately adjacent to the landfill such as the berms and floodplains. *Residuals* from the immediately adjacent areas would be consolidated into the landfill before the cap was constructed. For additional information on the 1994 Proposed Plan please consult one of the Information Repositories listed on page 9.

Based upon additional RI information and subsequent interim response actions. the remediation under Alternative 1 has been modified. The additional RI information includes the investigation results of Cell 4, the KSSS, and the five former lagoons on the Georgia-Pacific Mill property. Interim response actions, which have been completed, include the construction of the steel sheet-pile wall to stabilize the dikes of Cells 1 and 2 and the removal of residuals from the surface of these dikes. Modifications are designed to accomplish more remediation of the PCB contamination at the site. In addition, the completed interim response actions will be incorporated in the remedy.

◆ Summary of the Preferred ◆ Remedial Alternative

The alternative that was selected involves containment of the residuals via landfill closure, reinforcement of the existing dikes, consolidation of PCB-contaminated residuals and soils, and long-term monitoring. Closure of the landfill would be in accordance with Parts 201 and 115 of NREPA regulations and the landfill's current permit. Reinforcement of the existing dikes, which has largely been completed, has increased stability and minimized the potential for dike failure under flood conditions. Long-term monitoring involves the collection and analysis of groundwater, surface water, and soil samples to track the effectiveness of the cap.

The proposed modifications of the preferred alternative and additional detail regarding Cell 4 include:

- ✓ Disposal of *PCB*-contaminated soils and *residuals* from the berms of the KHL-*OU* 3 in Cell 4;
- ✓ Disposal of *PCB*-contaminated sediments from the Kalamazoo River immediately adjacent to the KHL in Cell 4 as an *interim response action*. Visual criteria will be used to determine the need for removal;
- ✓ The removal of *PCB*-contaminated soils and residuals from the KSSS floodplain area, and the disposal of these materials in Cell 4. Verification sampling will be conducted, and if the MDEQ's unrestricted residential cleanup criteria of 2.3 ppm is achieved, the action will be accepted as a final remedy. If this criteria is not achieved, the PRPs will propose, within 45 days, specific additional actions, including an implementation schedule, that will be taken to achieve any of the appropriate state cleanup criteria;
- ✓ The removal of *residuals* and soils from the five former lagoons as a final response action with a cleanup level of 21 *ppm* and land use restrictions. These materials will be placed in Cell 4 prior to construction of the cap over Cell 4;
- ✓ Upon completion of excavation at the KSSS and the five former lagoons, the excavation will be back-filled with clean soil and the area restored;
- ✓ The construction of a cap over Cell 4 to minimize infiltration of precipitation through the landfill and

prevent potential migration of *PCB* from the landfill to the Kalamazoo River. The cap is designed to meet the Michigan Solid Waste Landfill closure regulations pursuant to Part 115 of the NREPA. The cap will include from bottom to top, a gas venting layer, a 30-mil thick polyvinyl chloride geomembrane liner, a 24-inch thick protective soil layer, and a six-inch thick vegetative soil layer; and

✓ Erosion protection will be placed on the slope of Cell 4. This protection will be sufficient to protect the berms from a 100-year flood event. Erosion protection has been provided by a steel sheet piling stabilization wall present between the Kalamazoo River and the berms of Cells 1 and 2.

◆ Rationale for Modifications ◆ to the Preferred Alternative

The remedy for the KHL-OU3 will be closure of the landfill by containment and capping in accordance with Part 115 of the NREPA. However, some remedial actions have been added to Alternative 1 in order to achieve additional remediation of the PCB contamination at the site. Identified below are the modifications to Alternative 1 and the rationale for these modifications.

Use of Steel Sheet Pilings Rather Than Gabions for Cells 1 and 2 Berm Stabilization

During a storm in 1994, the berm was badly damaged when several trees were uprooted. This left a 120-foot section of the berm vulnerable to erosion and failure. For this small section of berm an interim response action was necessary to prevent berm failure. The engineering assessment was that sheet piling could be quickly and cost effectively implemented to stabilize this section of berm. Also, there was a greater degree of confidence that the installation of the sheet piling could be properly constructed and would result in fewer construction impacts on the river than gabions. Review of the berm conditions to either side of the sheet piling indicated that installation of another 900 feet of sheet piling as an interim action would further stabilize the berm and be consistent with the final remedy. This interim action was announced in a Fact Sheet issued in June 1996 by the MDEQ.

The sheet piling was driven 20 feet into the ground to stabilize the base of the berm. The retaining wall extends up to the 100-year flood elevation, 765.5 feet above sea level, to prevent surface water runoff from eroding residuals and soils into the Kalamazoo River and protect the berm and the KHL-OU3 from severe flood events. During construction, precautions were taken to minimize impacts of the work on the Kalamazoo River. Residuals found on the surface or in the berms were removed and placed in a storage area in Cell 4. Clean material was then placed in this void between the sheet-pile retaining wall and the remaining berm. The entire area has been seeded to promote growth of vegetation across the surface.

Based upon this need for an immediate *interim* response action, the erosion control and berm stabilization system has been changed to steel sheet piling from the rock filled wire baskets called gabions that were originally proposed. Both of these options were reviewed in the FFS. The steel sheet piling was selected because of site-specific advantages it has over gabions.

Remediation of Cell 4

A portion of the capacity in Cell 4 will be used to contain *PCB*-contaminated *residuals* and soils from the berms of the landfill, the KSSS, the Kalamazoo River, and the five former lagoons on the Mill property. These materials will be consolidated with the *residuals* already in Cell 4 prior to capping Cell 4. This remedial action will eliminate several potential sources of *PCBs* to the Kalamazoo River in a timely manner while taking advantage of the most cost-effective disposal alternative available.

Additional investigation of Cell 4 has indicated that it contains a greater volume of *PCB*-contaminated residuals (12,700 cubic yards) than originally estimated, that the *PCB* concentration in residuals (ranging 0.19 to 69 ppm) was greater than originally estimated (ranging 0.68 to 7 ppm), and that the pond supported numerous species of terrestrial, semi-aquatic and aquatic life including fish. Based upon new information, the consolidation of residuals into Cell 4 is being proposed to utilize the available space for disposal of residuals.

This remedial action will place *PCB*-contaminated *residuals* that have migrated from the landfill and have contaminated the soils and sediments of the berms, floodplain, and the Kalamazoo River immediately adjacent to the KHL-OU3 back into the KHL. The *PCB*-contaminated *residuals*, soils, and sediments from these areas will be excavated and consolidated in Cell 4 after *dewatering* and prior to construction of the cap. There are also five former lagoons containing *PCB*-contaminated *residuals* on the north side of the river next to the paper mill's clarifier that will be excavated and placed in Cell 4 at the same time.

All residuals to be consolidated in Cell 4 contain *PCBs* at similar concentrations and were produced by the same paper-making process during the same time period as the residuals already in the KHL.

Addition of a TSCA Waiver

It is proposed that the EPA Regional Administrator waive certain *TSCA* requirements to facilitate a cleanup of adjacent and nearby *PCB*-contaminated residuals, soils, and sediments at the site. The waiver specifically applies to disposal of the excavated materials having *PCB* concentrations of 50 ppm or greater in Cell 4. How *TSCA* applies is discussed below.

- ✓ TSCA establishes the requirements for handling, storage, and disposal of materials containing PCBs with concentrations of 50 ppm or greater. Consequently, TSCA does not apply to all the PCB-contaminated material (i.e., residuals, soils, or sediments) found in the KHL-OU3 or the five former lagoons because much of the material has PCB concentrations of less than 50 ppm.
- ✓ These regulations also would not apply to the materials of the KHL because they were disposed of prior to February 17, 1978. Under 40 CFR 761 Subpart D Storage and Disposal, TSCA does not require that materials landfilled prior to February 17, 1978 be removed for disposal.
- ✓ Subpart D does state that if such *PCB* materials were removed from the disposal site, they must be disposed of in accordance with *TSCA* regulations. Under the proposed alternative, *TSCA* disposal

regulations could be triggered by excavation of *PCBs* which may occur during the excavation of sediments, soils, and *residuals* with a *PCB* concentration of 50 *ppm* or greater for consolidation into Cell 4 from the five former lagoons. Pursuant to 40 CFR Section 761.60 (a) (4), these *PCBs* must be disposed of: "(i) in an incinerator which complies with 761.70; or (ii) in a chemical waste landfill which complies with 761.75." The *TSCA* compliant chemical waste landfill disposal method is generally much less expensive than incineration.

The on-site consolidation and containment of *PCBs*, whether from sediments, soils or *residuals* excavated from the Kalamazoo River or floodplain areas adjacent to the KHL-*OU*3, the berms, the five former lagoons or from cap and retaining-wall construction activities would not meet the following chemical waste landfill requirements of Section 761.75 (b):

- ▶ Bottom liner requirements (the landfill does not have a bottom liner) (761.75 (b) (1) and (2));
- ✓ Hydraulic conditions 50-foot distance between bottom liner and historical high water table or leachate collection system (the distance between the bottom of the landfill and the historical high water table is not 50 feet) (761.75 (b)(3)); and
- ✓ Leachate collection requirements (there is no leachate collection system) (761.75 (b)(7)).

Pursuant to 761.75 (c) (4), the EPA Regional Administrator may determine that one or more of the requirements in 761.75 (b) is not necessary to protect against unreasonable risk of injury to health or the environment from *PCBs* and may waive such requirements. In Alternative 1, the EPA Regional Administrator would waive only the requirements in 761.75 (b) (1), (2), (3) and (7) because the final remedial action will provide protection to human health and the environment against unreasonable risks of injury. Only the three requirements noted above would be waived, all other requirements of *TSCA* would still be in effect.

Another factor taken into consideration was that no significant reduction in long-term risks would be gained from off-site disposal of the *PCBs* in the

excavated *residuals*, sediments, and soils as compared to the amount of *PCBs* being contained in-place under the final cover. This addition to the preferred alternative will eliminate several potential sources of *PCBs* to the Kalamazoo River.

◆ Evaluation Criteria ◆

In accordance with EPA guidance, the alternative has to be evaluated against two threshold and five primary criteria. In addition, support agency and community acceptance are required and are evaluated following public comments on the Proposed Plan. Public comments are reviewed and addressed in the Responsiveness Summary during the final decision process and *ROD* preparation.

Overall Protection of Human Health and the Environment

(Threshold Criteria)

Overall protection of human health and the environment addresses whether a remedy provides adequate protection and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled with treatment, engineering controls, or institutional controls.

The removal of *residuals* and soils from the KSSS, the KHL, and the five former lagoons and consolidation of these materials in Cell 4 would provide adequate protection of human health and the environment.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

(Threshold Criteria)

Compliance with ARARs addresses whether a remedy will meet all of the regulations of other federal and state environmental laws or justify invoking a waiver.

The proposed use of Cell 4 for on-site consolidation and containment of excavated *residuals*, soils, and sediments with *PCB* concentrations of 50 *ppm* or greater does not meet the *TSCA* chemical waste landfill requirements of 761.75 (b). However, this modification can comply with the *TSCA* disposal requirements through a waiver. This waiver could be granted by the EPA as described under the subsection titled "Addition of a *TSCA* Waiver" found on page 7 of this document. This modification would also

comply with the existing permit closure requirements of the NREPA because a part of the KHL of the KHL-OU 3 is a permitted solid waste landfill. With the waiver, the overall remedy would be in compliance with state and federal ARARs.

Long-Term Effectiveness and Permanence

(Primary Criteria)

Long-term effectiveness and permanence refers to the amount of remaining risk and the ability of a remedy to maintain reliable protection of human health and the environment over time after cleanup goals have been met. The modifications do not affect the long-term effectiveness of the remedy.

Reduction of Toxicity, Mobility or Volume through Treatment

(Primary Criteria)

Reduction of toxicity, mobility or volume through treatment is the anticipated performance of the treatment technologies that may be employed in a remedy.

The modification will eliminate the mobility of *PCBs* removed from the KSSS and the five former lagoons, however, this will be accomplished through containment, not treatment.

Short-Term Effectiveness

(Primary Criteria)

Short-term effectiveness refers to the speed with which the remedy achieves protection, and any adverse impacts on human health and the environment that may result during the construction and implementation period.

The modifications involve transport of *PCB*-containing *residuals* a short distance along King Highway from the Mill to the KHL. Alternatives other than containment of the waste in-place would involve longer transport for disposal and would have less short-term effectiveness.

Implementability

(Primary Criteria)

Implementability is the technical and administrative feasibility of a remedy, including the availability of material and services needed to implement the chosen solution. The modifications meet the implementation criteria stated above.

Cost

(Primary Criteria)

Cost includes the capital and operation and maintenance costs. By expanding the scope of soils, residuals, and sediments excavation to include the KSSS, the five former lagoons and the immediately adjacent river, the total cost is increased only slightly.

Support Agency Acceptance

Support agency acceptance indicates whether the EPA, based on its review of the Proposed Plan and comparison with federal laws, concurs with, opposes or has no comment on the preferred alternative.

Community Acceptance

Community acceptance summarizes the public's general response to the alternatives described in the Proposed Plan. This criterion will be assessed in the *ROD* following a review of the public comments received on this Proposed Plan.

◆ Community Participation ◆

The MDEQ is requesting your input on the changes to Alternative 1 - Landfill Closure. A 30-day public comment period begins on July 1, 1997 and continues through July 30, 1997. During the comment period a public meeting will be held where the MDEQ will present the Proposed Plan, answer questions, and accept both written and oral comments. The public meeting is scheduled for July 16, 1997. Comments may be submitted at the public meeting or sent to the MDEQ (address at right), postmarked no later than July 30, 1997. For your convenience, a mailing list/comment return mailer is attached to this document.

The comments received and MDEQ responses will be provided in the Responsiveness Summary section of the *ROD*.

This document is issued under Section 117(a) of CERCLA and was prepared in accordance with the EPA's Guidance on Preparing Superfund Decision Documents.

Locations of the Site Information Repositories

Allegan Public Library 331 Hubbard Street Allegan, Michigan 616-673-4625

Saugatuck-Douglas District Library 10 Mixer Street Douglas, Michigan 616-857-8241

Kalamazoo Public Library 315 South Rose Kalamazoo, Michigan 616-342-9837

Waldo Library Western Michigan University Kalamazoo, Michigan 616-387-5156

Charles Ransom District Library 180 South Sherwood Avenue Plainwell. Michigan 616-685-8024

Otsego District Library 219 South Farmer Otsego, Michigan 616-694-9690

To send comments or obtain further information, please contact:

Mr. Scott D. Cornelius, Project Manager MDEQ, Environmental Response Division Superfund Section P.O. Box 30426 Lansing, MI 48909-7926 517-373-7367

EPA Contact:

Mr. Richard Boice, Remedial Project Manager United States Environmental Protection Agency, Region 5 77 West Jackson Boulevard Chicago, IL 60604 312-886-4740

♦ Glossary ♦

Applicable or Relevant and Appropriate Requirements (ARARs) - the federal and state requirements that a selected remedy will attain. These requirements may vary between alternatives.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) - CERCLA, or more commonly "Superfund", was authorized by Congress in 1980 and established the National Priorities List (NPL), the National Oil and Hazardous Substance Contingency Plan (NCP), and a system of liability for potentially responsible parties to remediate or pay for remediation at hazardous waste sites.

Dewater - to remove water from wastes, soils, or chemicals.

Gabion wall - a dike stabilization measure consisting of rock secured within wire-mesh boxes.

Interim response sation - activities undertaken to reduce releases or potential releases of hazardous substances which are expected to be consistent with the final remedy.

National Priorities List (NPL) - the EPA's list of uncontrolled or abandoned hazardous waste sites eligible for long-term cleanup under the *Superfund* Remedial Program.

National Oil and Hazardous Substance Contingency Plan (NCP) - provides the organizational structure and procedures for preparing for and responding to discharge of oil and releases of hazardous substances, pollutants and contaminants.

Operable Unit (OU) - a geographical portion of the site.

Part per Million (ppm) - one ppm is equal to one part of a substance in one million parts of water. One ppm is also equivalent to one milligram of a substance per kilogram of solid on a dry weight basis.

Polychlorinated Biphenyls (PCBs) - a class of 209 discrete chemical compounds in which one to ten chlorine atoms are attached to a biphenyl molecule. *PCB*s are a hazardous substance and probable human carcinogen. *PCB*s also bioaccumulate in the food chain and are very persistent in the environment.

Record of Decision (ROD) - a public document that explains which cleanup alternative will be used at a National Priorities List site and the reasons for choosing the cleanup alternative over other possibilities.

Remedial Investigation/Focused Feasibility Study (RI/FFS) - two distinct but related studies, normally conducted together, intended to define the nature and extent of contamination at a site and to evaluate appropriate, site-specific remedies.

Residuals - the waste associated with the manufacturing of paper that is composed of clay and wood fibers contaminated with *PCB*s.

Superfund - the common name for the federal program established by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended in 1986. Superfund is a trust fund to investigate and clean up abandoned or uncontrolled hazardous waste sites.

Toxic Substances Control Act (TSCA) - TSCA mandates the testing prior to commercial manufacture of any new chemical, and disclosure of information regarding its toxicity. TSCA also imposes use restrictions on certain chemical substances, such as PCBs. PCBs are regulated under Section 6 of TSCA and their use is prohibited except in totally closed equipment. TSCA also establishes the requirements for handling, storage and disposal of PCBs or PCB items with concentrations of 50 ppm or greater.



MAILING LIST / PUBLIC COMMENT RETURN MAILER

If you did not receive this Revised Proposed Plan Fact Sheet by mail, you are not on the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site mailing list. If you wish to be placed on the mailing list, please print your name and address below, and then fold, tape, stamp, and mail this form to:

MDEQ-ERD Superfund Section PO Box 30426 Lansing, Michigan 48909-7926

NAME:	
· · · · · · · · · · · · · · · · · · ·	
OITVIOTATE	7(0)
REPRESENTING:	ZIP:
	Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site
Or you may contact Mr. Scott Cornelius of the MDE	
Superfund site and the proposed remedial action d Operable Unit. You may use the space below to co form by July 30, 1997 to the MDEQ Project Manag	garding the Allied Paper, Inc./Portage Creek/Kalamazoo River lescribed in this Revised Proposed Plan for King Highway Landfill somment on this proposed plan. You may mail your comments on this er or attend the Public Meeting scheduled for July 16, 1997, and presen call the Project Manager at the number provided above.

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Fold on dashed lines, tape, stamp, and mail		 	
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Name			Stamp
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City & State	-		
Zip	-		

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY ERD - SUPERFUND SECTION

LANSING, MI 48909-7926

PO BOX 30426

MDEQ ERD-SUPERFUND SECTION P.O. Box 30426 Lansing, MI 48909-7926

kazoo Mr. Robert DeMink City of Kalamazoo Wastewater Department 241 W. South Street Kalamazoo, MI 49007-4796

Revised Proposed Plan Fact Sheet King Highway Landfill Operable Unit Kalamazoo, Michigan

A Public Meeting will be held
Wednesday, July 16, 1997
at 7:00 p.m. in the Colt Center (616-388-9381)
located at 2107 North 26th in
Comstock, Michigan

Comments may be submitted either verbally or in writing at the public meeting, or you can send written comments postmarked no later than July 30, 1997, to the MDEQ (address on page 9).





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 5 230 SOUTH DEARBORN ST. CHICAGO, ILLINOIS 60604



MAY 2 4 1991;

REPLY TO ATTENTION OF: 5HS-12

Mr. Jon F. DeWitt, Esq. Varnum, Riddering, Schmidt & Howlett 171 Monroe Avenue, N.W. - Suite 300 Grand Rapids, Michigan 49503

RE: Threat of Release of Contaminants from the Allied Paper Company Lagoon System to the Portage Creek

Dear Mr. DeWitt:

I am writing to document several conversations we have had regarding the recent problems experienced with the "dewatering "lagoons at the Allied Paper Company.

On Wednesday, April 17, 1991, this Agency was informed by the City of Kalamazoo ("City") and the Michigan Department of Natural Resources ("MDNR") of a potential release of polychlorinated biphenyl ("PCB") contaminated wastewater to the Portage Creek and adjacent areas of the Allied Paper Company ("Allied") property. This threat of release of contaminants was attributed to excess precipitation in the area which raised the level of Allied's wastewater or dewatering lagoons creating concern that these lagoons would overflow.

Previous Tsampling results indicated by this Agency concentrations of 210 ppm in the wastewater contained in these In addition, MDNR results showed PCB concentrations in the soils adjacent to the lagoons to be as high as 1200 ppm. If the lagoons were to overflow, both the wastewater and the sediments would be washed into the Portage Creek and surrounding area creating a release of contaminants that would be a substantial threat to the public health and welfare and the environment. to this concern, the U.S. EPA notified both Thomas Flanagan and you of the situation. As you recall, we informed you that some type of immediate action was necessary; we stated that if Allied failed to address the problem promptly U.S. EPA would respond to the situation as allowed under Section 300.130 (a) (2) of the National Contingency Plan (NCP), 40 CFR Part 300.

Allied responded to the release threat by pumping the wastewater in the affected lagoon into the Bryant clarifier for retention of the wastewater. The clarifier, with a capacity of approximately 800,000 gallons, was of limited use; therefore, the ultimate disposal of the wastewater needed to be addressed. Allied negotiated an agreement with the City of Kalamazoo for the final disposal of the wastewater to the POTW. The lagoon water had to meet the City's established POTW discharge limitations. With the approval of the City, Allied installed a portable carbon treatment system which was used to treat the water prior to discharge to the POTW. These actions mitigated the immediate threat at the site.

Although the recent problem has been corrected, the lagoons are susceptible to flooding during periods of heavy rain until a long-term solution is implemented. I urge you to work with MDNR and the U.S. EPA Remedial Programs Section personnel to determine the long-term measures, which would satisfactorily alleviate the flooding and/or overflowing of the wastewater in the lagoons in the future.

Sincerely yours,

Paul R. Steadman

On-Scene Coordinator

Emergency and Enforcement Response Branch

cc: Thomas P. Flanagan, FRETCO

Bruce Merchant, City of Kalamazoo

Scott Cornelius, Michigan Dept. of Natural Resources

Kathleen Cavanaugh, MAG

VARNUM, RIDDERING, SCHMIDT & HOWLETT ATTORNEYS AT LAW

SUITE 800
171 MONROE AVENUE N W
GRAND RAPIDS MICHIGAN 49503
TELEPHONE (616) 459 4186
FAX (616) 459 8468
TELEX 1561593 VARN

JON F DEWITT

June 7, 1991

Ms. Laurie Donlon Adams
Assistant Regional Counsel
United States Environmental
Protection Agency
Region V
230 South Dearborn Street
5CS-TUB-3
Chicago, Illinois 60604

Re: Allied Paper Dewatering Lagoon Operation

Dear Ms. Adams:

On May 29 I received a letter from Paul Steadman dated May 24 addressing the operation of Allied Paper's dewatering lagoons. Based on your request that I direct my communications to you rather than to Paul, I am responding to his letter and ask that you provide him with a copy of this response.

LTI-Limno-Tech is preparing a plan for operating and maintaining the dewatering lagoons during the performance of the RI/FS. Generally, that plan contemplates that careful monitoring of the water levels in the dewatering lagoons will take place and will trigger, whenever necessary, the pumping of excess water to the City of Kalamazoo wastewater treatment plant. We will be working with Bruce Merchant at the City of Kalamazoo to try to make that process more cost-effective.

Once we have the city's reviews of this plan, it will be reviewed with both Paul Steadman and Scott Cornelius. Once such a plan is in place, and we are assured of being able to pump water as it accumulates in the dewatering lagoons, we will then look into other possible arrangements for disposal of that accumulated water.

As noted, this plan is being prepared to provide for operations through the completion of the RI/FS. It is impossible to determine at this point what might or might not be required for this area of the property upon completion of the RI/FS. If you or

VARNUM, RIDDERING, SCHMIDT & HOWLETT

Ms. Laurie Donlon Adams June 7, 1991 Page 2

Mr. Steadman have any other questions with respect to our present plans, please let me know.

Yours truly,

VARNUM, RIDDERING, SCHMIDT & HOWLETT

JFD:jb

cc: Mr. Tom Flanagan

Mr. Bruce Merchant Mr. Scott Cornelius

Ms. Kathleen Cavanaugh

Mr. Greg Peterson

ALLIED HISTORICAL RESIDUALS DEWATERING LAGOONS

TEMPORARY WATER MANAGEMENT PLAN

Prepared by:

LTI, Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

July 26, 1991

DRAFT

INTRODUCTION

Water management at the paper of the paper o

The purpose of this water management plan is to describe the temporary procedures that will be used to manage the water which collects and accumulates in the Allied HRDLs. The water management plan is anticipated to remain in effect until after completion of the RI/FS at which point, a long term management plan will be developed and implemented. Should the plant reopen, this plan will be medical to reflect plant operations.

SITE ANALYSIS

Before a water management plan could be developed, the amount of water generated, lost and stored had to be estimated. A site and was conducted to determine the storage capacities of the legon's and the annual and monthly water balance.

The HRDL area consists of ageons of various size interconnected with 12 inch culverts. The total drainage are is approximately 18 factes. The lagoon configuration and direction of drainage are shown in Figures 1 and 2. Lagoons 3, 5, and 6 drain by gravity to Lagoons 1 and 2. The culvert between Lagoon 4 and 3 has been closed and therefore, Lagoon 4 sisolated from the other Lagoons. The size of the individual drainage and storage areas are given in Table 1. The Lagoons have a maximum storage capacity, with two feet of freeboard, of approximately 3.6 million gallons. The storage capacity of each lagoon is also given in Table 1. This information is used in the water balance calculation detailed below, to estimate the volume of water requiring management.

Lagoon	Drainage Area (ft ²)	Storage Area (ft ²)	Average Depth (ft)	Storage Capacity (gals)
1	12,174	10,217	8.1	458,539
2	54,978	47,124	5 75	1,321,828
3	51,836	31,416	3.44	338,338
4	70,686	25,133	7	939,974
5	93,462	15,708	4.5	293,739
6	498,728	43,982	2 7	246,739
TAL	781,864	173,580		3,599,207

Table 1. Lagoon Areas and Capacities

Annual Water Balance

Each year the HRDL area is subject to precipitation in the form of rain and snow which collects in the lagoons. When he miles not more reason, water is dissipated through a approximation, exaporation, and explication. LTI calculated the annual water balance based on measured changes in volume between May 1990 and May 1991. Estimates of the sources and losses during the one year period are discussed below:

Precipitation

The Kalamazoo areareccives approximately 4.2 inches of precipitations per year (Bedient and Huber, 1988). The eminated maximum surface water amoff generated on the lagoons is approximately surface pallons per year.

Evaporation

The Kalamazoo area also has a mean annual evaporation rate of B1 per year. (Bedient and Huber, 1988). The majority (80%) of the evaporation takes place during the growing season (May to October). Therefore, approximately 2.5 million gallons will be dissipated from the lagoons during this time period and approximately 0.75 million gallons will be dissipated from November through April.

Pumping

As noted above, since the closing of the mill, active pumping to the city sanitary sewer has been used to control water levels. During the period of May and June 1991, approximately 0.5 million gallons of treated water was pumped to the City of Kalamazoo sanitary sewer system.

Evapotranspiration and Exfiltration

In May 1991, approximately 3.2 million gallons of water were stored in the HRDLs. From this information it was calculated that approximately 10 million gallons of runoff were evapotranspired and exfiltrated, as shown in Table 2.

Source Loss	Inches	Affected Area (ft ²)	Volume (gallons)
Source Precipitation	34.5	781,864	17 X 10 ⁶
Loss Evaporation	31	173,580	3.25 X 10 ⁶
Pumping			0.5 X 10 ⁶
Evapotranspiration & Exfiltration		173,580	10.05 X 10 ⁶

Table 2. Annual Water Balance (5/90 to 5/91)

Estimated Total Stored $5/91 = 3.2 \times 10^6$

Monthly Water Balance

In any given month, mean precipitation will exceed mean evaporation by approximately 1.1 million gallons. The estimated average excess water that will be generated in the Allied HRDLs for each month is shown in Table 3. This excess water can be dissipated by a combination of evapotranspiration, exfiltration, and discharge to the City. Water levels in the lagoons will remain relatively constant through out the year as long as this excess water is dissipated through one or more of these methods.

Mean Runoff Mean Excess Precipitation (in.) (gals) Evaporation (gals) Water (gals) January 2.33 1,136,567 111,872 1,024,695 2.33 111,872 1,024,695 February 1,136,567 March 2.33 1,136,567 111,872 1,350,210 1,014,164 April 3 1,462,082 111,872 3 May 1,462,082 447,918 1,014,164 3 June 1,462,082 447,918 1,014,164 July 3.17 1,543,960 447,918 1,096,042 3.17 1,543,960 447,918 1,096,042 August September 3.17 1,543,960 447,918 1,096,042 October 3 1,462,082 447,918 1,014,164 November 3 1,462,082 111,872 1,350,210 December 3 1,462,082 111,872 1,350,210 TOTAL 34.5 16,814,073 3,358,744 13,455,333

Table 3. Monthly Water Balance

Storage Capacity Maintenance

As discussed above, the lagoons have an estimated maximum storage capacity of 3.6 million gallons with an additional 2 feet of freeboard. The water in the lagoons will be maintained at average levels such that the lagoons could store water from a 25 year - 24 hour storm. While this excess capacity is available by maintaining the two feet of freeboard, Allied will manage the water in the lagoons so that there is storage capacity for runoff from this design storm in addition to the two feet of freeboard. For the Kalamazoo area, a 25 year-24 hour storm yields 4.5 inches of rain or approximately 2 million gallons of water. Given that the maximum storage capacity of the lagoons is 3.6 million gallons, the lagoon water levels will be maintained such that the average volume stored will not exceed 1.6 million gallons and therefore the required 2 million gallons of storage capacity will be available, if it is ever needed. The average levels that will be maintained to provide this excess capacity are expressed in terms of freeboard as shown in Table 3.

Table 3. Average Water Levels That Will Be Maintained in the Lagoons.

<u>Lagoon</u>	Average Maintained <u>Freeboard (ft)</u>
1	6
2	4
3	3
4	4
5	3
6	3

OPERATIONAL PLAN

The administrative order which allowed Allied to discharge treated water to the City of Kalamazoo sanitary sewer system, was signed in April 1991. Allied installed a filtration and activated carbon treatment system in May 1991 and began operating and discharging through the system to the City. The following operational plan will be followed by Allied and its contractor until a long term closure plan is implemented. The long term closure plan will be determined following completion of the RI/FS for the site.

Goals

The specific poerificial goals of the plan include the following:

- 1. A minimum of two feet of freeboard should always be maintained in all lagoons.
- 2. Emergency storage capacity must be available to handle runoff from a large storm (25 year, 24 hour storm).
- 3. Accumulated water in the lagoons will always be kept to a minimum. This will support the long term goal of solidifying the residuals.
- 4. Extreme care must be used in verifying and documenting that no unacceptable discharges to the Cityloccut.

To meet the objectives stated above, it is estimated that a program of monitoring water levels and pumping and treating up to one million gallons of water per month, will be sufficient. In the rare event that rainfall exceeds the expected maximum volumes, emergency contingency plans will be implemented.

Monitoring

The following will be monitored and recorded twice weekly by Allied or its contractor:

- 1. Lagoon water levels: Meaning and the same state of the lagoon to provide quantitative water level data. in addition, each gage is maked with beginning and comprising and emergency conditions developed the water level in relation to these markers will dictate the procedures to be followed (i.e. begin pumping, stop pumping, implement emergency procedures).
- 2. Precipitation: A precipitation gauge will be installed to provide on site rainfall data. Quantitative rainfall data will be obtained monthly from the Michigan Department of Agriculture, Climatology Division.

Pumping and Treatment

The procedures for pumping and treatment are as follows:

- 1. Water will be pumped from Lagoons 2 and 4 to the filtration and carbon adsorption treatment system at a design rate of 100 gpm. As present the water is pumped to the Bryant Carther and treated in batches. It is anticipated that the Bryant Clarific will be by passed in the influence is the militeopers. Water would then be pumped from the lagoons directly to the treatment system.
- 2. Water will drain by gravity from Lagoons 3, 5 and 6 to Lagoons 1 and 2. Lagoon 4 is isolated from the other lagoons and will provide emergency storage capacity.
- 3. As noted above, each of the staff gauges in the lagoons are marked with "begin pumping", "stop pumping", and "emergency conditions" level markers. A schematic of a representative staff gage is shown in Figure 3. When the water levels are over "begin pumping" markers, pumping to the treatment unit will commence and continue daily until the water levels are drawndown to the "stop pumping" marker. The "begin pumping" and "stop pumping" markers are set approximately six inches above and six inches below the average maintained freeboard marks on each gage (Table 3).
- 4. The water balance estimates will be periodically evaluated and the marker elevations modified as additional information is collected. The transfer and treatment rates will be adjusted accordingly.

Emergency Procedures

Emergency conditions will be considered to exist when water levels exceed the "emergency condition" markers on any lagoon. The "emergency condition" markers will be set at the following levels:

- a) For Lagoons 3, 5 or 6, the minimum freeboard mark of two feet.
- b) For Lagoons 1 and 2, the three feet of freeboard mark.

In the event that emergency conditions do occur, the procedures that will be implemented are as follows:

- 1. Pumping to the treatment system will continue.
- 2. Water in Lagoon 3 will be pumped to pumped if Lagoon 3 is approaching the "emergency condition" mark.
- 3. Lagoon 4 will be used for emergency reserve storage intil it reaches the "begin pumping" mark. When water levels in Lagoon 4 reach the "begin pumping" mark, an additional pump will be added to pump water from Lagoon 4 to the treatment plant.

Previous experience has demonstrated that even in the event of a 25-year storm the above procedures will prevent the water levels in the lagoons from exceeding a minimum freeboard of 2 feet.

Reporting and Recordkeeping

When the treatment system is operated and there is a discharge to the City sewer system, samples must be collected for laboratory analysis and the flows recorded. This information must be reported to the City of Kalamazoo on a monthly basis. The maintenance and operation records must also be maintained according to the procedures set forth in the Operation Manual. In addition to the above, when pumping to the treatment system and discharging to the City, all terms and conditions of the Administrative Order will be met.

REFERENCES

Bedient, P.B. and Huber, W.C., 1988, Hydrology and Floodplain Analysis. Addison-Wesley Publishing Co., New York.

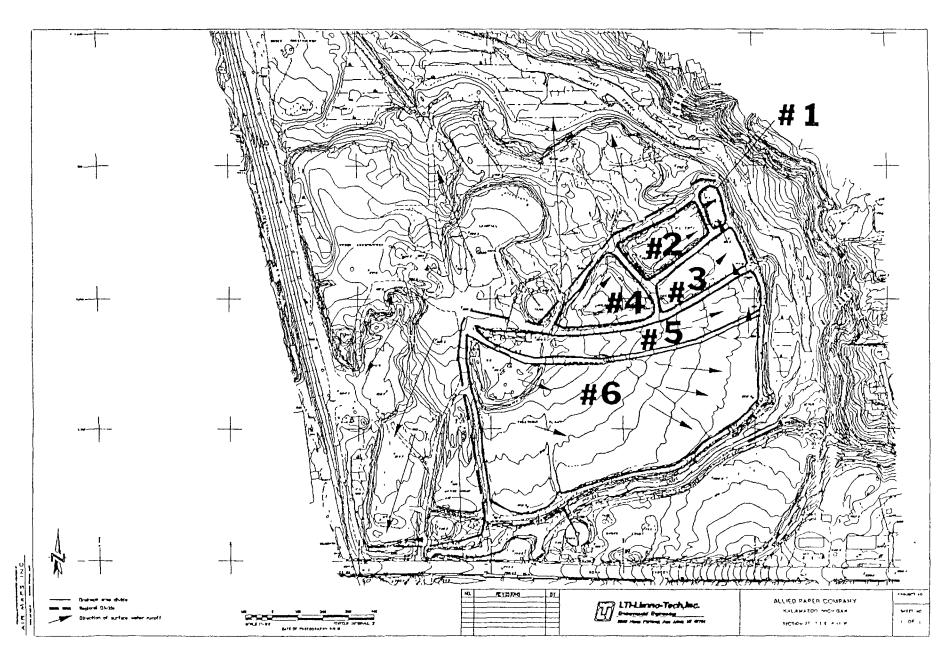


Figure 1. Drainage Areas

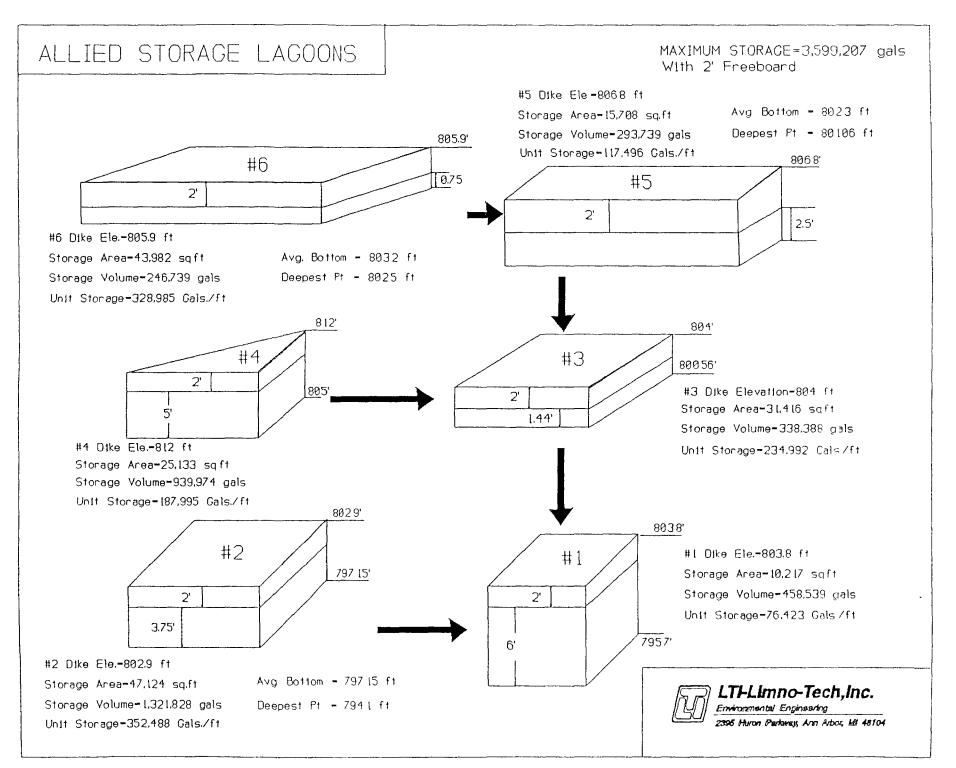


Figure 2. Storage Lagoon Configuration

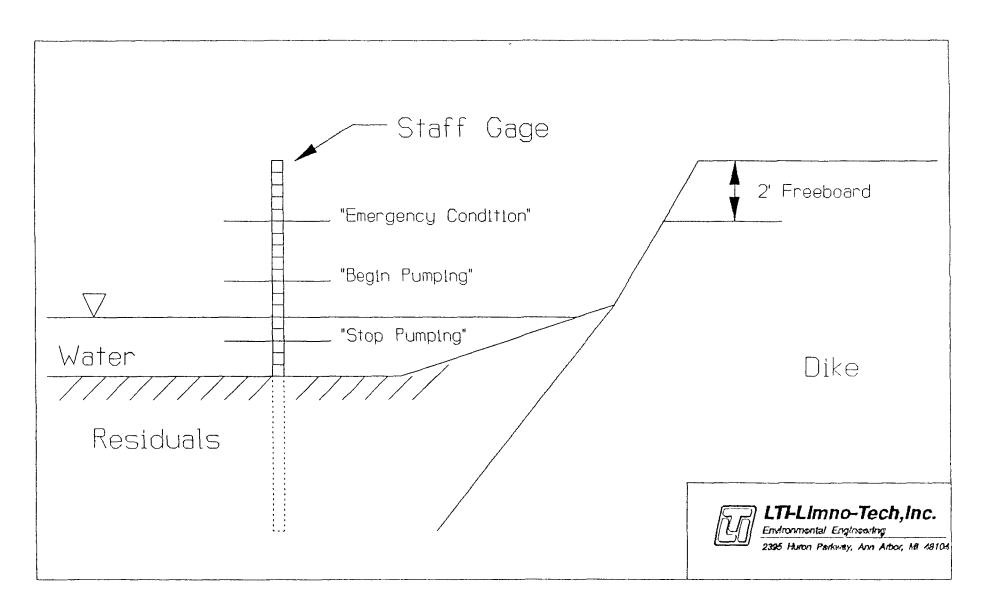


Figure 3. Staff Gage Schematic

Laboratory Results for Treated Wastewater Samples from the Bryant Clarifier Discharge, April - May 1991

HM Holdings/Allied Paper, Inc.

Parameter	Measured Concentration (mg/l)	Limit (mg/l)
Cadmium	< 0.005	0.040
Chromium	< 0.01	4.67
Copper	0.02	2.23
Lead	< 0.05	0.110
Nickel	0.04	1.59
Zinc	0.03	5.30
Total Cyanide	< 0.02	0.25
CDDs, CDFs	See Attached	prohibited
Total PCBs	< 0.01	prohibited
Mercury	< 0.0005	prohibited
pН	7.8 su.*	No Limit
BOD	43	No Limit
TSS	5	No Limit
VSS	5	No Limit

^{*} samples obtained from clarifier prior to treatment

ANALYTICAL RESULTS

To: United Environmental Tech., Inc.

Project No: 910836 Report Date: 5/01/91

Project Desc.: Analysis of one aqueous sample from Allied Paper. Proj.

#89-002-02.

Sample No.:910836-01 Sample type: aqueous Received on: 4/26/91

ID: "Clarifier discharge, 4/26/91, 2:40"

BOD 43 mg/L Suspended solids, total 5 mg/L Suspended solids, volatile 5 mg/L

Unless otherwise noted, test results represent the sample(s) as they were received.

ANALYTICAL RESULTS

To: United Environmental Tech., Inc.

Project No: 910835

Report Date: 4/29/91

Project Desc.: Emergency analysis of aqueous sample from Allied Paper

Proj.89-002-02.

Sample No.:910835-01 Sample type: aqueous Received on: 4/26/91

ID: "Clarifier discharge, 4/26/91, 2:40"

PCB, total	3000	CIOPAL
Cyanide, total	<0.02	mg/L
Cadmium, total	<0.005	mg/L
Chromium, total	<0.01	mg/L
Copper, total	0.02	mg/L
Lead, total	<0.05	mg/L
Mercury, total	<0.0005	mg/L
Nickel, total	0.04	mg/L
Zinc, total	.0.03	mg/L

Unless otherwise noted, test results represent the sample(s) as they were received.



August 2, 1991

Mr. Bruce E. Merchant Department of Public Utilities City of Kalamazoo 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: Status Report for the Allied Paper Dewatering Lagoons

Dear Bruce:

This letter is intended to bring you up to date with respect to the activities that have been occurring and those that are planned for the Allied dewatering lagoons. I'd like to discuss the issues with you at your earliest convenience. Please call me after you have reviewed this letter and the enclosed information.

Enclosed with this letter are the following:

- 1) Allied's draft Temporary Water Management Plan for the Historical Residuals Dewatering Lagoons.
- 2) Complete laboratory results for the sust batch softwater that was treated and then sent to the City in May and June 1991.

We'd like you to review the plan and provide us with your comments before we submit the final plan to EPA and MDNR. If necessary, I'd be happy to come to your office sometime in the next two weeks to go over it with you. Otherwise, we can discuss questions and comments by phone.

Also, as discussed below, it will be necessary to amend the Administrative Order to allow for continuous discharge of treated water as opposed to batch discharge. With the reopening of the mill, no water from the lagoons will be discharged to the clarifier.

Status Summary

To date Allied has pumped one "batch" of treated water to the City and the water levels in the lagoons are no longer at emergency levels. We have not pumped water to the City since mid-June. A complete set of the laboratory results for the requisite samples are enclosed and indicate that the water discharged to the City complied with the discharge requirements. We've also enclosed the QA/QC documentation for the chlorinated dioxins and furans. The results for dioxins and furans in the treated water sample were virtually the same as the laboratory blank (distilled water).

During the pumping and treatment of the first batch, two problems occurred related to estimating the volume of water that was pumped to the City. As we discussed prior to discharge, we agreed to use two methods to estimate the volume: 1) an in-line meter and 2) measured differences in the clarifier water levels at the beginning and end of each batch. Unfortunately, the meter malfunctioned and we discovered that the clarifier or it's piping were not water-tight. We are presently ordering and installing a new and more reliable meter. We have not yet identified the location where water is being lost from the clarifier. However, the loss is significant. When it was full, the level in the clarifier dropped about 1 foot over a two day period when no discharge to the City occurred. Since the clarifier is not owned by Allied and will not be used by Allied once the mill is reopened, we are not planning on investigating or correcting the leak.

Prior to discharge to the City, we filled the clarifier with an estimated 800,000 gallons of water. Upon completion of pumping the clarifier was empty and the final meter reading was approximately 100,000 gallons. While there is a leak in the clarifier, we estimate that much less than 700,000 gallons were lost. As noted above, during discharge, the meter malfunctioned, and attempts were made to repair it. Based upon visually estimated discharge rates, we believe that even after the repairs the meter was under-measuring the actual discharge rates. Given the meter malfunction and loss from the clarifier, we can only grossly estimate the actual volume of water discharged to the City. Our best estimate is that approximately 500,000 gallons of water were discharged to the City from the first batch? As agreed, the invoice from the City for the discharge should be sent to Allied's attorney Mr. Jon DeWitt.

We have since been fine-tuning the system and developing a temporary water management plan that will be employed for the next few years until after completion of the RI/FS (enclosed). After the RI/FS is completed, it is anticipated that a permanent closure plan for the lagoons will be developed. However, until the permanent plan is implemented, it will be necessary to actively manage the water in the lagoons. The purpose of the temporary plan is to prevent the water in the lagoons from accumulating to levels observed in late April 1991. An integral part of the present plan is to treat and discharge the water to the City sanitary sewer system as we did in May and June.

requirements since appears that the mill will reopen in the future. As you are aware, a lease agreement is being negotiated between Norfolk Paper inc. and Performance Paper inc. It is likely that Norfolk will use the Bryants Clarifier for their operations. Therefore, Allied would no longer use the clarifier as a holding basin. Rather, we are planning on pumping directly from the lagoons shrough the treatment system and then discharge to the City. The discharge would no longer be batch mode and therefore the Administrative Order and monitoring requirements would have to be specified. Specifically, the frequency of monitoring would have to be modified. Perhaps we could monitor at specified volumetric intervals (e.g. every 500,000 or 1,000,000 gallons).

We are now in the process of pumping the second "batch" to the clarifier. We will begin treating and discharging to the sewer as soon as we have installed the new meter and have received results for the next round of samples. After we empty the clarifier for the second time, we would like to begin discharging directly through the treatment plant to the sewer. We intend to steam clean the clarifier after the final batch is emptied, so that it will be ready for Norfolk operations.

I'm looking forward to discussing these issues with you.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/jlt

cc: J. Dewitt

M. Donahue

kzoolago.doc

January 10, 1992

Mr. Bruce E. Merchant Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, MI 49007-2565

RE: Status Report for the Allied HRDL Water Management Plan

2) 7

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., LTI submits this status report to inform you of the current status of the water management plan for the historical residuals dewatering lagoons (HRDLs). During the month of December, 1991 no water from the Allied site was discharged to the City sanitary sewer.

The Administrative Order requires monthly and semi-annual reports for the discharge to the sanitary sewer, beginning in October 1991. However, no water was discharged over the period of July 1, 1991 thru December 31, 1991. This letter is therefore intended to fulfill the 1991 semi-annual reporting requirement for July thru December as well as the monthly reporting requirement for December.

The direct discharge system installation was completed on January 8: 1992 and we began to discharge treated waters to the City sewer on that date. We will collect a complete set of "semi-annual effluent samples" next week and the results will be reported with our next status report (if available). The plant is presently discharging at a rate of approximately 80 gpm for 8 hours per day. We plan to continue this discharge on an as needed basis. We will send the first formal monthly report to you by February 10, 1992.

Should you have any questions regarding this letter or the status of the management plan, please don't hesitate to call me.

Sincerely,

Gregory W. Peterson Project Manager

GWP/act

cc: Jon F. DeWitt



March 9, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site. Monthly Self-Monitoring Report - February 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for February 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator. Also enclosed with this letter is the laboratory report for the sample collected on February 5, 1992.

Allied pumped, treated, and discharged a total volume of 27,000 gallons of water in February. The daily pumping records are provided in the enclosed summary. Effluent samples were collected on February 5, 1992 and sent to Kar Laboratories, Inc. for analysis of all regulated semi-annual parameters. The analysis are enclosed and indicate compliance for all parameters.

Should you have any questions regarding this report, please call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson

Project Manager

GWP/jlt

Enclosures

cc: Tim Meulenberg
Jon F. DeWitt

jd7kzoo.doc

HM Holdings ' Allied Paper, Inc. HRDL and Decant Lagoon Storm Water Management Plan

Monthly Sampling and Maintenance Log

	Month	JANUAI	24	-	Year 1992		2 Operator John		JOHN / PETER
Day	Meter Reading	Daily Volume	Filter Change	Pump Maintenance	GAC Backwash	GAC Changeout	Requisite Sampling	Operational Sampling	
1	neuding	7 0.41.1.0	<u> </u>	1		- Constitution of the cons			
2									
3									
4									
5									
6			· · · · · · · · · · · · · · · · · · ·						
7	0.0	0.0							
8	0,0	10,500							
9	10,500	26,500							
10	37,000	0.0							
11	37,000	0.0							
12	37,000	0.0							
13	37,000	11,500			<u> </u>				
14	48,500	0.0							
15	48,500 55,000	6,500				<u> </u>			
16	55,000	0,0							
17	55,000	48,000							
18	103,000	22,000							
19	125,000	0.0							
20	125,000	0,0							
21	125,000	0.0							
22	125,000	0.0							
23	125,000	11,000					Yes-14:45		
24	136,000	0.0		<u> </u>					
25	136,000	0.0			<u> </u>				
26	136,000	0.0							
27	136,000	0.0							
28	136,000	0.0							
29	136,000	0,0							
30	136,000	0.0							
31	136,000	0.0							

LTI-Limno-Tech,Inc.

April 10, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site. Monthly Self-Monitoring Report - March 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for March 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator. Also enclosed with this letter is the laboratory report for the samples collected on March 16, 1992.

Allied pumped, treated, and discharged a total volume of watern March. The daily pumping records are provided in the enclosed summary. Effluent samples were collected on March 16, 1992 and sent to Kar Laboratories, Inc. for analysis of PCBs. The analytical estility are enclosed and indicate companie with the terms of the Administrative Order.

Should you have any questions regarding this report, please call me.

Sincerely.

LTI, Limno-Tech, Inc.

Gregory W. Peterson

Project Manager

GWP/jlt

Enclosures

cc: Tim Meulenberg
Jon F. DeWitt

jd7kzoo doc

HM Holdings 'Allied Paper, Inc. HRDL and Jecant Lagoon Storm Water Management Plan

Monthly Sampling and Maintenance Log

	Month	MARCH			Year	1992		Operator_	John T. Peterson
Day	Meter	Daily	Filter	Pump	GAC	GAC	Requisite	Operational	
,	Reading	Volume	Change	Maintenance	Backwash	Changeout	Sampling	Sampling	
1	463,000	0							
2	463,000	0							
3	463,000	3,000 -	7 Drain Bin For Willer						
4	466,000	60,000							
5	526,000	59,500							
6	585,500	56,500		oil change					
7	642,000	36,000		0					
8	678,000	0							
9	678,000	Q							
10	678,000	0							
11	678,000	24,000				ļ			
12	702,000	0							
13	702,000	26,500							
14	728,500	0			ļ				
15	728,500	55,000							
16	783,500	50,000					PCB'S		
17	833,500	60,500							
18	894,000	90,000						755, VSS	
19	984,000	48,500				ļ			
20	1,032,500	27,500				ļ			
21	1,060,000	84,000		Oilchunge		<u> </u>	ļ		
22	1,144,000	0]		ļ			
23	1,144,000	0		Purpinfor Repairs					
24	1,144,000	0				 			
25	1,144,000	0							,
26	1,144,000	0				ļ			
27	1,144,000	0				<u> </u>			
28	1,144,000	0				ļ			
29	1,144,000	0							
30	1,144,000	0							
31	1,144,000	0	<u></u>			1	<u> </u>		

LTI-Limno-Tech, Inc.

KAR Laboratories, Inc.

ANALYTICAL RESULTS

To: Limno-Tech (LTI)

Project No: 920594

Report Date: 4/01/92

Project Desc.: Analysis of four aqueous samples from Allied Paper (LTI

#JD7-2).

Sample No.:920594-01 Sample type: aqueous Received on: 3/16/92

ID: "Midpoint, 3/16/92, 12:00"

PCB, total <0.1 ug/L

Sample No.:920594-02 Sample type: aqueous Received on: 3/16/92

ID: "Discharge, 3/16/92, 12:00"

PCB, total <0.1 ug/L

Sample No.:920594-03 Sample type: aqueous Received on: 3/18/92

ID: "Midpoint, 3/18/92, 14:00"

Suspended solids, total 11 mg/L Suspended solids, volatile 9 mg/L

Sample No.:920594-04 Sample type: aqueous Received on: 3/18/92

ID: "Discharge, 3/18/92, 14:00"

Suspended solids, total 10 mg/L Suspended solids, volatile 10 mg/L

Unless otherwise noted, test results represent the sample(s) as they were received.



May 11, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site. Monthly Self-Monitoring Report - April 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for April 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator. Also enclosed with this letter is the laboratory report for the samples collected on April 5, 1992.

Allied pumped, treated, and discharged a total volume of water in the daily pumping records are provided in the enclosed summary. Effluent samples were collected on April 5, 1992 and sent to Kar Laboratories, Inc. for analysis of PCBs. The analytical results are enclosed and indicate compliance with the terms of the Administrative Order.

Should you have any questions regarding this report, please call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/jlt

Enclosures

cc: Tim Meulenberg
Jon F. DeWitt

jd7kzoo.doc

HM HOLDINGS/ALLIED PAPER, INC. HRDL AND DECANT LAGOON STORMWATER MANAGEMENT PLAN Monthly Sampling and Maintenance Log

Month	Acar
Moun	MPRIL

Year /992

	Start	End	Daily	Pump	GAC	GAC	Requisite	Operational
Day	Volume	Volume	Valume	Maintenance	Backwash	Changeout	Sampling	Sampling
1	1,144,000	1,144,000	0					
2	1,144,000	1,188,000	44,000	oilchange				
3	1,188,000	1,264,000	76,000	σ				
4	1,264,000	1,333,000	69,000					
5	1,333,000	1,380,000	47,000				YES-PLOS	
6	1,380,000	1,398,000	18,000	oi/change				
7	1,398,000	1,432,000	34,000	0	BACKFTUIH-P.			
8		1,452,000	20,000				<u> </u>	
9		1,474,000	221000					
10	1,474,000	1,506,000	32,000	oilchange				
11		1,506,000	0	0	<u> </u>			
12		1,538,000	32,000			<u> </u>		
13		1,589,000	51,000	oil change	-			
14	1,589,000	1,615,000	26,000	1 0				· · · <u>· · · · · · · · · · · · · · · · </u>
15	1,615,000	1,615,000	0	oilchange				
16	1,615,000	1615,000	0	0				
17	1,615,000	1,615,000						
18	1,615,000	1,615,000	0			L		
	1,615,000	1,615,000	0			Primary		
_20	1,615,000	1,615,000				Carbon	<u> </u>	
	1,615,000	11615,000	0	<u> </u>		UNIT		
22	1,615,000	1,615,000	Q			CHANGED		
23	1,615,000	1.615,000	0			OUT-		
24	1,615,000	11615,000	0		ļ	SE CONDARY		
25	1,615,000	1,615,000	0			UNIT		
26	1,615,000	1,615,000	0			SwitcHED		
27	1,615,000	1,615,000	٥			TO PRIMARY		
28	1,615,000	1,615,000	0			BUILDING		
29	1,615,000	1,515,000	0			MAINTENACE		
30	1/615,000	1,615,000	0			11		
				<u> </u>	J			

	Pumping	Volume	Volume	Monthly	Avg. Gallons
	Days	Start	End	w/ Total	Per Day
MONTHLY TOTALS	12	1,144,000	1,615,000	471,000	39,250

KAR Laboratories, Inc.

Page 1

ANALYTICAL RESULTS

To: Limno-Tech (LTI) Project No: 920759
Report Date: 4/17/92

Project Desc.: Analysis of two aqueous samples from Allied Paper/H.M.

Holdings, JD7-2.

Sample No.:920759-01 Sample type: aqueous Received on: 4/06/92

ID: "Treatment Plant Midpoint, 4/05/92, 13:00"

PCB, total $$<0.1\ ug/L$$ Suspended solids, total $$8\ mg/L$$ Suspended solids, volatile $$7\ mg/L$$

Sample No.:920759-02 Sample type: aqueous Received on: 4/06/92

ID: "Treatment Plant Discharge, 4/05/92, 13:00"

PCB, total $$<0.1\ ug/L$$ Suspended solids, total $$8\ mg/L$$ Suspended solids, volatile $$8\ mg/L$$

Unless otherwise noted, test results represent the sample(s) as they were received.



June 10, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site.

Monthly Self-Monitoring Report - May 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for May 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator. Also enclosed with this letter is the laboratory report for the samples collected on May 6, 1992. In addition, we've also enclosed the PCB analytical results for samples that were obtained from the treatment plant during the cleaning of the Gray Tank and Clarifier (May 20, 1992).

Allied pumped, treated, and discharged a total volume of 240,000 galous of water in May. The daily pumping records are provided in the enclosed summary. Effluent samples were collected on May 11, 1992 and sent to Kar Laboratories, Inc. for analysis of PCBs. In addition, the Gray Tank and Clarifier have were cleaned during the week of May 18, 1992 according to the work plan dated May 13, 1992. Per the request of Bob O'Day of your office, effluent samples were collected on May 20, 1992 for PCB analysis. The analysis carelosed and indicate compliances with the terms of the Administrative Order.

The next monthly report will be filed on the form provided by your office and sample analyses will include all semi-annual parameters. Should you have any questions regarding this report, please call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/jlt Enclosures

cc: Tim Meulenberg
Jon F. DeWitt
Jim Werling



July 10, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site.

Monthly Self-Monitoring Report - June 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for June 1992. Allied pumped, treated and discharged a total of galling the water is larger with this letter is a summary of the daily records collected by our treatment plant operator. Also enclosed with this letter is the semi-annual self monitoring report for the period of January 1, 1992 through June 30, 1992. We've included analytical results for all parameters for the sample collected in February 5, 1992. We collected an effluent sample on June 26, 1992 and are presently awaiting the results. We will forward the results when they become available.

Should you have any questions regarding this report, please feel free to give me a call.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/jlt Enclosures

cc: Tim Meulenberg
Jon F. DeWitt
Jim Werling

id7kzoo.doc



August 7, 1992

Mr. Bruce E. Merchant Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, MI 49007-2565

RE: HM Holdings, Inc.: Dewatering Lagoons at Old Allied Paper Site. Monthly Self-Monitoring Report

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site. No water to the sanitary sewer during the month of June and therefore no samples were collected.

As promised in our last monthly report, enclosed with this letter are laboratory results for an effluent sample that was collected on June 26 and analyzed for the full list of semi-annual parameters. The results are expected with the administrative order for all parameters.

Should you have any questions regarding this report or the operations at Allied, please feel free to call me at (313) 973-8300.

Sincerely,

LTI-Limno-Tech, Inc.

Gregory W. Peterson

Project Manager

GWP/act

Enclosure

cc: Jon F. DeWitt
Jim Werling
Tim Meulenberg



September 10, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site. Monthly Self-

Monitoring Report-August 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for August, 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator.

Allied pumped, treated, and discharged a total volume of **School gallons of water in**August. The daily pumping records are provided in the enclosed summary. Effluentsamples were collected on August 23, 1992, and sent to Kar Laboratories, Inc. for analysis of PCBs. The analytical results are not yet available, but will be included with the next reports.

Should you have any questions regarding this report, please call me.

Need ang 23 result

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson

Project Manager

GWP/smv

Enclosures

cc: Tim Meulenberg
Jon F. DeWitt
Jim Werling

ANALYTICAL REPORT

To: Limno-Tech (LTI) Project No.: 921923
2395 Huron Parkway Client No.: 1826
Ann Arbor MI 48104 Project Date: 8/24/92

Ann Arbor, MI 48104 Project Date: 8/24/92
Date Promised: 9/14/92
Attn: Mr. Gregory Peterson Date Reported: 9/14/92

PO#:

Project Desc.: Analysis of four samples from Allied Paper/H.M. Holdings (JD7-2).

Sample No.:921923-03 Type:aqueous Rec'd: 8/24/92 Sampled: 8/23/92 ID: "Treatment Plant-Discharge, 17:00"

Solids, volatile 215 mg/L Suspended solids, total 18 mg/L PCB, total 0.11 ug/L

Identified and quantified as Aroclor 1242.

Sample No.:921923-04 Type:aqueous Rec'd: 8/24/92 Sampled: 8/23/92 ID: "Treatment Plant-Midpoint, 17:00"

Solids, volatile 181 mg/L Suspended solids, total 19 mg/L PCB, total 0.10 ug/L Identified and quantified as Aroclor 1242.

Unless otherwise noted, test results represent the sample(s) as they were received.



September 22, 1992

Mr. Bruce E. Merchant Department of Public Utilities City of Kalamazoo 1415 N. Harrison Kalamazoo, MI 49007-2565

RE: Allied Paper, Inc. HRDL Water Treatment Plant, Possible Detection of PCBs in Effluent

Dear Bruce:

As discussed with you on September 18, 1992, the most recent laboratory analytical results (sampled august 23, 1992) for the treatment plant effluent at the Allied Paper, Inc. Historical Residuals Dewatering Lagoons (HRDLs) indicate detection of PCBs at a concentration just above the laboratory detection limit. These results indicate the first detection of PCBs in any samples from the system since operations began in May 1991. The laboratory report (enclosed) indicated a PCB concentration of 101 lig/Lat the mid-point (between the first and second carbon unit) and 0.11 lig/l in the effluent sample (after the second carbon unit). The laboratory detection limit for the PCB analyses is 0.1 lig/l.

In accordance with the Administrative Order under which Allied discharges the treated water to the City, as Allied's consultant, LTI has implemented the following actions regarding the possible violation:

- 1) Notified the City within 24 hours of becoming aware of the possible violation. LTI became aware of the possible violation on September 17, 1992 and notified you by telephone on September 18, 1992.
- 2) Ceased discharge to the City. Although not required by the Administrative Order, discharge to the City has ceased. No water has been discharged since September 8, 1992.
- 3) Resampled the effluent. On September 18, 1992, the treatment system was operated in the recycle configuration (no discharge) and samples were collected from the mid-point and effluent.
- 4) Began investigations. Since September 18, 1992, LTI has been conducting investigations to identify possible causes of the laboratory detection and to identify and recommend solutions to minimize the potential for recurrence in the future.
- 5) Notify the City in writing. As you requested, this letter presents written notification and documentation of the possible violation.



October 16, 1992

Mr Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N Harrison Kalamazoo, MI 49007-2565

RE Allied Paper, Inc. HRDL Water Treatment Plant, Possible Detection of PCBs in Effluent

Dear Bruce.

On behalf of HM Holdings/Allied Paper, Inc, as a follow-up to my letter to you of September 22, 1992, this letter presents the results of the September 18; 1992/resampling of the mid-point and discharge at the Allied Paper, Inc treatment plant No PCBs were detected in the mid-point or effluent of the treatment plant. These results (enclosed) indicate that the treatment plant is functioning properly. These results indicate that the possible PCB detections that were reported for the August 23, 1992 samples may have been "false positives" or were attributable to transient channeling of the carbon or sloughing of bio-floc/ A complete carbon changeout does not appear necessary at this time.

In my September 22, 1992 letter to you, we proposed several system and operational changes that could be implemented to minimize the potential for similar possible violations in the future. We'd like to discuss these options with you at your earliest convenience so that we can implement appropriate actions and resume plant operations.

Should you have any questions regarding this subject, please don't hesitate to call me

Sincerely,

LTI, Limno-Tech

Gregory W. Peterson Project Manager

GWP

Enclosures

cc. Jon F. DeWitt Jim Werling

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POSSIBLE CAUSES

On September 18, 1992 LTI began investigating the causes of the possible violation, and began evaluating system and operational changes that could be implemented to minimize the potential for future occurrences. Our preliminary conclusions regarding potential causes of the possible violation include the following:

- o Ealse positive laboratory reading It is possible that the sample result does not accurately reflect and therefore is not representative of the actual PCB concentrations in the effluent, especially since the reported concentrations are at or just above the method detection limit. Other sources of a non-representative sample include contamination of the sample during sampling in the laboratory.
- o Assuming that therlaboratory results are an accurate representation of the effluent sample, possible causes of the detection include the following
 - 1) Sloughing of impacted bio-flocythat may accumulate on the carbon during operation and especially during down times
 - 2) Short circuiting through possible channels within the carbon units
 - 3) Premature saturation and breakthrough of the carbon units

As you are aware, it may be impossible to prove that the cause of the detection was attributable to sampling or laboratory error, even though these sources of error are common. Similarly, is laboratory or sampling error was the cause, it is not possible to eliminate the potential forth occurring in the future.

Although our investigation is not yet complete, the system and operational changes that we are evaluating to minimize the potential for recurrence (assuming that the cause was systematic) include the following

Possible System Changes:

- 1) Installed contact chlorinator unit on the influent to disinfect the influent and minimize the growth of bio-floc on the carbon Minimizing the growth of bacteria and algae would minimize the potential for sloughing of impacted bio-floc during start-up of the units
- 2) Install a vacuum loop retween the effluent and second and first carbon can represent the units between periods of operation. The maintenance of water in the units should minimize creation of channels during startsup of the system.

3) Complete carbon changeout. Based upon LTI's evaluation and discussion with the manufacturer, a complete carbon changeout should not yet be necessary. Only 500,000 gallons have been pumped through the carbon since the last changeout. Because both the mid-point and effluent samples had similar laboratory results, it appears that the most likely cause would be sampling or laboratory error short circuiting or sloughing rather than premature break-through. The confirmatory laboratory results should provide additional information with respect to the need for a carbon changeout.

Possible Operational Changes

- 1) Change discharge operationete "batch" mode. The system could be operated such that discharges could occur in monthly "batches". Samples would be collected and analyzed before each "batch" is discharged. For example, the system would be run in the recycle mode and sampled. Once the laboratory results indicate no detected PCBs the system would discharge to the City for one month. At the beginning of the second month, the system would recycle and the second monthly sample would be collected and so on. If the laboratory results indicated detection of PCBs in the effluent, confirmatory sampling and/or system correction would be performed before discharging that "batch".
- 2) Recycle after each down period. The plant is operated on an intermittent as needed basis. The operation of the system could be changed such that after any significant down period, the system is recycled to eliminate any short circuit channels and sufficiently flush any accumulated bio-floc. In addition, the operation of the system could be changed to minimize the number of down periods per year. For example, the system could be operated continuously for longer duration's and then shut down for longer duration's.

After receipt and review of the confirmatory laboratory results and completion of Lat's investigation, a course of action consisting of one, all or combination of the above actions or others will be recommended. We will propose the recommended course of action to the City and seek your approval for implementation.

Should you have any questions or comments regarding this report, please don't hesitate to call me at (313) 973-8300 or Mr. Jon DeWitt of Varnum, Riddering, Schmidt and Howlett at (616) 459-4186

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/sv Enclosures



October 17, 1992

Mr. Bruce E. Merchant Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, MI 49007-2565

RE: Monthly Discharge Volumes for Allied Paper, Inc. Treatment Plant - September, 1992

Dear Bruce:

Enclosed with this letter, please find the monthly sampling and maintenance log for the Allied Paper HRDL water treatment plant for the month of September, 1992. During september Allied treated and discharged a total volume of cool garrons of water to the City. As discussed in my letters to you of September 22, 1992 and October 16, 1992, the discharge was ceased on September 17, 1992 when it was discovered that there had been a possible violation associated with the August 23, 1992 sample.

1 6

Should you have any questions or comments regarding this letter or the Allied treatment system, please don't hesitate to contact me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson

Project Manager

GWP/act

cc: Jon F. DeWitt
Jim Werling

HM HOLDINGS/ALLIED PAPER, INC. HRDL AND DECANT LAGOON STORMWATER MANAGEMENT PLAN Monthly Sampling and Maintenance Log

Month DEPTEMBER	
Monum Och CABCIC	

Year 1997

	Start	End	Daily	Pump	GAC	GAC	Requisite	Operational
Day	Volume	Volume	Volume	Maintenance	Backwash	Changeout	Sampling	Sampling
1	1,952,000	1,976,000	24,000					
2		1,997,000	16,000	Oilchange				
3	1,992,000	1,997,000	0					
4		1,997,000	0					
5	1,992,000	1,997,000						
6	1,992,000	1,992,000	0					
7	1,992,000	1,992,000	0					
8		2,018,000	26,000					
9	2,018,000		0	ļ				
10	2,018,000		0					
11	2,018,000	2,018,000	0					
12		3,018,000	0					L
13	2,018,000		0					
14	2,018,000		0					
15	2,018,000		0					
		2,018,000	0					
17		3,018,000	0					
18		2,018,000	ORecycle				Yes	
19		2,018,000		Pump Serviced				
20	2,018,000		0					
21	3,018,000	2,018,000	0					
22		3,018,000	0					
23	2,018,000		0					
24	2,018,000		0					
25	2,018,000		0			! 		
26	3,018,000		0			. —		
27	2,018,000							
28	2,018,000		0					
29	3,018,000	3,018,000	0					
30	2,018,000	2,018,000	O					
31								

Pumping		Volume	Volume	Monthly	Avg. Gallons
Days		Start	End	w/ Total	Per Day
MONTHLY TOTALS	3	1,952,000	2,018,000	66,000	27,000



November 9, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: Allied Paper, Inc. Historical Residual Dewatering Lagoon Treatment Plant

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly self-monitoring report for the operation of the treatment plant at the Allied Site for the Month of October 1992. During October, no water was discharged to the City from the Allied treatment plant. Therefore no pumping records or sampling results are enclosed.

In accordance with phone conversations with Mr. Bob O'Day and Mr. Kent Montiger of your office and consistent with the recommendations contained in my September 22, 1992 and October 16, 1992 letters to you, Atlied plans on changing operations at the recommendations contained in my September 22, 1992 and resume areatment this week. The operation changes are intended to further minimize the potential for possible violations in the future. The operational changes include recycling the water sufficiently, prior to discharge, to minimize the potential for changes include recycling the water sufficiently, prior to discharge, to minimize the potential for changes include recycling the water sufficiently, prior to discharge to the City for a given month.

Specifically, the operation will include the following steps:

- 1. Before discharging to the City sanitary sewer each month, the treatment plan will be operated in a recycle mode. Water with be purposed from the studing tanks through the earthon water and then have the latter and.
- 2. The effinent will be monitored over the recordence in the result of the second
- 3. When the operator has determined that the system has difficulty (by effluent clarity observations), he will obtain the monthly monthly samples. The samples will be analyzed by Constitute Posts about turn around basis.
- 4. If the sample results indicate implicates with the conditions of the Administrative Order, Allied will again discharge will occur until the problem is corrected and additional confirmatory samples are collected.

5. During a given month, if there is a significant down-period (greater than three days), upon restarting operations, the system will be operated in the recycle mode and monitored for visual clarity. Once the system has been sufficiently recycled (the effluent is visually clear), the discharge to the sanitary sewer will commence.

Bruce, if you, Bob, Kent, or Tim have any questions regarding this letter or the proposed changes please don't hesitate to contact me. We are operating the plant in recycle mode today and plan to collect the November samples. We plan to resume discharging to the City on Wednesday, November 11, 1992 pending receipt of acceptable laboratory results.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

eggy W

GWP/jlt

cc: Tim Meulenberg
Jon F. DeWitt
Jim Werling
Kent Montiger
Bob O'Day

jd7kzoo.doc



DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamazoo Michigan 49007 2565 (616) 337-8157 FAX (616) 337-8699

November 17, 1992

Mr. Gregory W. Peterson Project Manager LTI-Limno-Tech, Inc. 2396 Huron Parkway Ann Arbor, MI 48104

Dear Mr. Peterson:

This is to confirm our telephone conversation on November 17, 1992 regarding sampling at the Allied Paper HRDL Treatment Plant. The sampling property presented in your letter of November 9, 1992 would certainly ensure that the nearment system is appearing properly and no PCBs could be discharged during the recycled phase of operation. Our only concern is that those samples may not be representative of the discharge once the system reaches normal, single pass operation. Consequently, we are requiring that a sample be collected each month-during the normal single pass operation.

In addition to what we discussed, we are requesting that we will enable us to conduct our monitoring in an appropriate manner. Please call Robert O'Day at 337-8705, Tim Meulenberg at 337-8716, or me at 337-8715. A message left on the answering machine at any of these numbers would be sufficient.

We wish to thank you for the excellent cooperation your firm has displayed throughout this project.

Sincerely,

Kent Mottinger,

Industrial Services Supervisor

Kent Muttingue

c: B. Merchant

T. Meulenberg

R. O'Day



December 9, 1992

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site. Monthly Self-

Monitoring Report-November 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for November, 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator and laboratory reports for the effluent samples.

Allied pumped, treated, and discharged a total volume of the gallons of water November. The daily pumping records are provided in the enclosed summary. Effluent samples were collected on November 10 1002 from the recycle and November 25 1002 from the discharge, and sent to Indicate commercial Services for analysis of PCBs. We contracted LCS for the analyses because they can provide 24 hour turn around. The analytical results are attached and indicate compliance with the terms of the Administrative Order

Should you have any questions regarding this report, please call me

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson
Project Manager

GWP/smv

Enclosures

cc: Tim Meulenberg
Jon F. DeWitt
Jim Werling

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January 11, 1993

Mr. Bruce Merchant Industrial Pretreatment Coordinator Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc. Dewatering Lagoons at Old Allied Paper Site. Monthly Self-

Monitoring Report-December 1992

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for December, 1992. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator and laboratory reports for the effluent samples.

Allied pumped, treated, and discharged a total volume of \$99.000 gallons of water an exempler. The daily pumping records are provided in the enclosed summary. December 1, 1992, from the recycle mode and sent to Laboratory Commercial Services for analysis of PCBs. The analytical results are attached and indicate compliance with the terms of the Administrative Order. No PCBs were detected in any of the samples analyzed. The samples completely and analyzed along with the next monthly report.

Should you have any questions regarding this report, please call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/smv

Enclosures

cc: Tim Meulenberg

Jon F. DeWitt
Jim Werling

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January 21, 1993

Mr. Bruce Merchant The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, Michigan 49007-2565

RE: Allied Paper, Inc. HRDL Treatment Plant

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter is intended to follow-up on telephone conversations with Mr. Bob O'Day and Mr. Tim Meulenberg of January 18, 1993. We became aware of a possible violation of the permit limits contained in the Administrative Order (AO) for the Allied HRDL treatment plant on January 18, 1993. The effluent ample collected on December 23 1992 was reported by Kar Taboratories to contain 1014 1/2/LPCBs. The laboratory report is included in the attachments. In accordance with the conditions of the AO, we notified the City of the possible violation within 24 hours of becoming aware. In addition, we have discharge. This letter provides written notice of the possible violation and presents our plan for systematic changes to minimize the potential for possible violations in the future. In addition, enclosed with this letter is the semi-annual report for the period of July 1, 1992 through December 31, 1992.

After conferring with the operator, laboratories and the carbon treatment system vendor, we believe that the causes of the possible violation may include the following:

1) False positive laboratory result - It is possible that the laboratory report for the December 23, 1992 samples in the laboratory of the December 23, 1992 samples. Five sets of samples collected before and after December 23, 1992 all showed no detectable PCBs. An effluent sample collected by the City on November 18, 1992 showed no detectable PCBs. Four efficient of the City on November 18, 1992 were collected and analyzed by Consumers Power Laboratory was contracted to perform these analyses (rather than Kar) because they offered 24 hour turn around. Three sets of these samples were collected during the recycle phase of operation, and the fourth set (November 25, 1992) was collected during the direct discharge phase.

If the laboratory report is accurate, it is possible that contamination of the samples inadvertently occurred during sampling or in the laboratory. We will begin collecting field blanks with every sample to monitor possible sampling contamination. We have requested the laboratory QA/QC information and will review the results to determine whether additional QA/QC procedures are warranted.

- 2) Premature Carbon Breakthrough It is possible that the carbon has prematurely reached breakthrough. According to the vendor, this is very unlikely given that the units should be able to handle at least 25 multion gallons (at 5 ug/1 PCB influent). We've treated less than 2 million gallons since the last change-out. Furthermore, we'd expect breakthrough in the first unit (measured at the mid-point) well before seeing any detectable PCBs in the effluent. The report for the December 23, 1992 samples indicated that PCBs were detected as both the mid-point and effluent. As a conservative measure, we will change out the carbon before resuming discharge.
- 3) Carbon Channeling It is possible that channels may form in the carbon beds and therefore decrease the contact time. We have taken precautions to minimize the potential for this to occur. Whenever the system is shut down for more than a day, we recycle before discharging to allow the units to re-equilibrate. Pressure gage readings which are menitored continually during operation do not suggest that syphonics short circuiting is occurring, as constant head loss is maintained across the units. In addition, the suspended solids concentrations have been consistently low since the operational changes (recycle) were implemented this fall in accordance with our agreements with the City of November 17, 1992. However, as a conservative measure, we will install a vacuum loop in the system to prevent syphoning and to minimize the potential for carbon channeling.
- 4) Suspended Solids or Entrained Carbon Particles It is possible that suspended solid or carbon fines are being discharged in the effluent. However, the evidence does not suggest that this is occurring, (i.e.: there are no visible signs of carbon particles in the samples, and the samples have low suspended solids concentrations, in addition the possible violations have been very infrequent.) If the measures outlined below do not eliminate future possible violations, it may be necessary in the future to evaluate changes in the pre-carbon or post-carbon filtration system? We would propose evaluating multi-media filters, or ultrafiltration units, or carbon units or additional basket filters.

Proposed Plan

Although it is possible that the December 23, 1992 results were not representative of the discharge, HM Holdings, Inc./Allied Paper, Inc. possess to implement the following systematic and operational changes to the treatment system before resuming discharge in order to minimize the potential for future possible violations.

- 1) The operational changes recently implemented will be continued in accordance with Mr. Mottinger's letter of November 17, 1992.
- 2) The carbon will be changed out before resuming discharge.
- 3) A vacuum loop will be installed in the system to prevent syphoning and tank drainage, and thereby minimize the potential for channeling in the carbon due to system start-ups and shut-downs.

- 4) All treatment plant samples that are collected will be analyzed on a 24 hour turn around basis so that we can identify possible problems, cease discharge, and address the problems more rapidly.
- 5) Field blanks will be submitted with every set of effluent samples and analyzed for PCBs. The field blanks will consist of distilled water that is poured into sampling containers on-site during the time of collection.

Bruce, should you, Kent, Bob, or Tim have any questions regarding this letter, please don't hesitate to contact me. Given the present lagoon levels and projections for precipitation and snow melt, we need to be able to resume pumping soon. We plan to change out the carbon, and install the vacuum loop next week so that we can resume discharge. Please let me know if this plan is acceptable to the City as soon as possible. Thank you for your continued help and cooperation.

Sincerely

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/smv

Enclosure

cc: Jon F. DeWitt
James Werling
Bob O'Day
Tim Meulenberg

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KAR Laboratories, Inc. Page 1

ANALYTICAL RESULTS

To: Limno-Tech (LTI)

Project No: 922994

Report Date: 1/13/93

Project Desc.: Analysis of two aqueous samples from Allied Paper/H.M.

Holding (JD7-2)

Sample No.:922994-01 Type:aqueous Rec'd: 12/23/92 Sampled: 12/23/92

ID: "Midpoint, 16:05"

PCB, total 0.18 ug/L Identified and

quantified as Aroclor 1242.

Sample No.:922994-02 Type:aqueous Rec'd: 12/23/92 Sampled: 12/23/92

ID: "Discharge, 16:00"

Suspended solids, total 4 mg/LSuspended solids, volatile 2 mg/LCadmium, total <0.005 mg/L Chromium, total <0.01 mg/L Copper, total 0.02 mg/L Lead, total <0.002 mg/L Mercury, total Nickel, total <0.0005 mg/L 0.02 mg/L Zinc, total 0.01 mg/L BOD 9 mg/LCyanide, total <0.02 mg/L PH7.5 S.U. PCB, total 0.14 ug/L

Identified and quantified as Aroclor 1242.

Unless otherwise noted, test results represent the sample(s) as they were received.

LABORATORY COMMERCIAL SERVICES A Division Of Consumers Power Company Jackson, Michigan 49201

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, MI 48104

LCS Job Number: 519353-781-015 Report Date: 01-05-93

Site Location: Allied Paper - H.M. Holding Treatment Plant

Project # LTI - JD7-2
Sample ID: Discharge - Treatment Plant
Sample Type: Water Collect
Sample Date: 01-04-93 Receive
Analysis Date: 01-05-93 LCS Co Collected By: 1ti

Received Date: 01-04-93

LCS Control Number: 930015-01

PARAMETER	RESULTS ug/L	MDL ug/L
PCB-1016	nđ	0.1
PCB-1221	nd	0.1
PCB-1232	nd	0.1
PCB-1242	nd'	0.1
PCB-1248	nd	0.1
PCB-1254	nd	0.1
PCB-1260	nd	0.1
TOTAL PCB	nd	

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB Only). SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA. ______

NOTES: MDL = Method Detection Limit, ug/L (parts-per-billion)

nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations ------

Data Ref: pcb3078

Date 0/0593



February 10, 1993

Mr. Bruce Merchant Industrial Pretreatment Coordinator The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, Michigan 49007-2565

RE: Allied Paper, Inc. HRDL Treatment Plant - Monthly Self-Monitoring Report for

January, 1993

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly self-monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for January 1993. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator. The laboratory reports for effluent samples collected in December and January were furnished to you with my January 21, 1993 letter to you.

Allied pumped, treated, and discharged a total of 89000 gallons of water in lanuary prior to shut-down of the system of lanuary 18, 1993. As discussed in my January 21, 1993 letter to you, Allied became aware of a possible violation on January 18, 1993 and immediately ceased discharge. The effluent sample collected on December 23, 1992 indicated the possible presence of PCBs at a reported concentration of 0.14 μ g/l. However, the PCB results for a subsequent sample collected on January 4, 1993 were below the detection limit.

Allied received verbal approval from Tim Meulenberg on amany implement the proposed plan contained in my January 2. 1993 letter to you another resume discharge. Allied implemented the following changes to the system and operation and resumed discharge on February 4, 1993.

- 1) The carbon was changed out on January 27, 1993
- 2) A racum cop var installed in the system on January 27, 1993.
- 3) Effluent samples collected during the recycle phase on February 2, 1993 were analyzed on a 24 hour turn-around basis. The results are attached and indicate compliance with the Administrative Order. All future effluent samples will likewise be analyzed on a 24 hour turn around basis.
- 4) A field blank was submitted with the effluent samples and analyzed for PCBs. Field blanks will likewise be collected during all future sampling events.
- The City was notified by telephone (messages left with Bob O'Day and Tim Meulenberg) provides with Mr. Mottinger's letter of November 17, 1992. This practice will continue.

We are grateful to you, Tim, Bob and Kent for the rapid response to my January 21, 1993 letter and proposed plan. As always, should you have any questions regarding this letter, please don't hesitate to call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/smv

Enclosures

cc: Tim Meulenberg
Jon F. DeWitt
Jim Werling

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March 10, 1993

Mr. Bruce Merchant Department of Public Utilities City of Kalamazoo 1415 N Harrison Street Kalamazoo, MI 49007-2565

RE: HM Holdings, Inc./Allied Paper, Inc. HRDL Treatment Plant, Monthly Self-

Monitoring Report for February, 1993

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly self-monitoring report for the pretreatment and discharge of water from the dewatering lagoons at the Allied Paper site for February 1993. Enclosed with this letter is a summary of the daily records collected by our treatment plant operator and the laboratory report for effluent samples collected in February.

As discussed in the monthly report for January 1993, system thanges were completed on January 24 1993. Allied pumped, treated and discharged a total of 25 100 gallons of water in February prior to shut-down of the system on February 24, 1993. Effluent samples were collected on February 2, 1993 samples indicated compliance with the conditions of the Administrative Order. However, a PCB concentration of 0.18 ug/Lwas reported in the February 24, 1993 sample.

On behalf of Allied, LTI reported the possible violation on March 1, 1993, within 24 hours of becoming aware. The system has been shift down, and we are presently evaluating treatment and discharge alternatives that can be implemented to prevent future possible violations. We plan on completing the evaluation within the next few weeks and will submit a proposal for your review.

Should you have any questions or comments regarding this report, please don't hesitate to contact me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

Enclosures

cc: Tim Meulenberg Jon F. DeWitt

Jim Werling

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LABORATORY COMMERCIAL SERVICES A Division Of Consumers Power Company Jackson, Michigan 49201

CHEMISTRY SECTION - ANALYTICAL REPORT

Customer Name: Greg Peterson

LTI - Limno-Tech, Inc. 2395 Huron Parkway Ann Arbor, HI 48104

LCS Job Number: 519353-781-475 Report Date: 02-26-93

Site Location: Allied Paper - H.M. Holding

Project # LTI - JD7-2 Sample ID: Discharge

Sample Type: Water Collected By: Iti

Sample Date: 02-24-93 Received Date: 02-25-93

Analysis Date: 02-26-93 LCS Control Number: 930475-01

PARAMETER	RESULTS ug/L	nd\r WDr		
PCB-1016	nd	0.1		
PCB-1221	nd	0.1		
PCB-1232	nd	0.1		
PCB-1242	nđ	0.1		
PCB-1248	0.18	0.1		
PCB-1254	nd	0.1		
PCB-1260	nd	0.1		
TOTAL PCB	0.18			

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB

Only). SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA.

NOTES: MDL = Method Detection Limit, ug/L (parts-per-billion)

nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3125

Reviewed By rewood Date 02-26-93



April 27, 1993

Mr. Kent Mottinger Industrial Services Supervisor City of Kalamazoo Department of Public Utilities Water Reclamation 1415 N. Harrison Kalamazoo, MI 49007-2565

Re HM Holdings, Inc.,- Allied Paper Dewatering Lagoons

Dear Mr. Mottinger

On behalf of HM Holdings, Inc./Allied Paper, Inc., (Allied), this letter presents a proposal for modifications to the Allied HRDL water pretreatment system. This proposal is being submitted for your review and approval in accordance with Mr. Collard's letter dated March 11, 1993, to Mr. Jon F. DeWitt, counsel for Allied. The proposed modifications summarized herein should eliminate the potential for PCBs to be present in the discharge. We are hopeful that you will find that the proposed modifications meet the City's requirements, and will allow the City to rescind the suspension of the permit to discharge.

The lagoon levels have not yet reached emergency levels, but we have just about exhausted the emergency reserve storage capacity. Therefore, we would sincerely appreciate your response to this proposal as soon as it is reasonably possible. We estimate that the system modifications could be completed by the beginning of next week, and therefore if the City's approval is granted, we would propose to begin discharging at the end of next week.

The major proposed system modification includes the acallation of the Kalamazoo Mater Reclamation Plant (KWRP). Pach barch will be sampled and analyzed for PGBs on a 24-hour turnaround basis. Once the laboratory results are received and indicate that PCBs have not been detected in the batch sample, the batch will be discharged to the KWRP. If the laboratory results indicate that PCBs are detected for the batch, the holding tank will be emptied back into the lagoons, and then pressure washed prior to receiving any subsequent batches. Since each barch is tested before it is discharged to the KWRP, it will be possible to monitor, control, and document that no measurable levels of PCBs have been discharged to the KWRP.

It is estimated that three days will be required to fill, sample, complete the PCB analysis, and then discharge each batch. Therefore, three-holding tanks will be used in rotation in the daily operation of the treatment system. On any given day, while one tank is being filled, we will be awaiting PCB results for the water in the second, and the third will be discharging to the KWRP. Under this scenario, approximately 20,000 gallons of treated water will be discharged daily to the KWRP.

We expect that the water in the holding tanks will be well mixed due to the agitation of the influent jet and relatively small size of the tanks. Each sample for PCB analysis will be collected once the receiving tank is full, and therefore should be representative of the water for the entire 20,000 gallon batch. In accordance with the recent change in the MDNR guidance for acceptable detection limits (MERA Operational Memorandum #6, Rev #2, Feb. 22, 1993) and consistent with the requirements of the permit, we propose that the laboratory use a detection limit of 0.2 ug/l for the PCB analyses.

The holding tanks will be pre-manufactured vinyl swimming pools installed northeast of the treatment plant, between the plant building and the Allied Type III landfill. A stabilized gravel foundation for the pools will be laid, and secondary containment for the tanks will be provided with earthen dikes surrounding the tanks. A culvert will provide drainage from the contained tank area to lagoon #4. The tanks will be inspected daily. All leaks will be repaired with vinyl patches as soon as they are identified

Several pilot studies were conducted in March and April 1993 to evaluate other system modifications that could be implemented to minimize the potential for the detection of PCBs in the treated effluent. Although additional pilot studies will be performed over the course of the next month to evaluate other possible system changes (e.g., addition of polymer coagulants to facilitate solids' removal), the following modifications to the system will be implemented immediately. The pilot study results indicate that these system changes should effectively remove PCBs from the influent, and therefore, we expect that with these changes, each treated batch will have non-detectable PCB concentrations.

Intake - The floating intake has been replaced with a media filter intake. The media in the intake is a mixture of sand and granular activated carbon.

Pre-filtration system - Two basket filters will be added to the pre-filtration system. The modified system will consist of two sets of parallel filters connected in series. The first set of filters will contain 15-20 mesh filter bags. The second set of filters will contain 5-10 u filter bags. The filter bags will be maintained by pressure washing on site and/or replacement.

Granular Activated Carbon (GAC) Units - No systematic changes will be made to the two stage GAC units. However, operationally, the frequency of backwashing will be increased to twice monthly, or as necessary as determined from operational parameters (turbidity, pressure changes, etc). In addition, air injection will be added to the backflush cycle to float and agitate the carbon beds, and thereby provide a more vigorous backflush that will remove trapped sediment particles

Post-filtration system - Two parallel basket filters will be added to the system between the effluent of the second carbon unit and the holding tanks. The filters will contain 1-3 u filter bags and will be maintained in the same manner as the prefilters.

We are confident that the above system changes will prevent any further possible releases of PCBs to the KWRP. We appreciate your consideration of this proposal, and look forward to receiving your comments and/or approval.

Should you have any questions, please don't hesitate to call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/smv

cc: Jon F. DeWitt

James Werling Rob Markwell

Bruce Merchants Tim Meulenberg

Bob O'Day



NEW PHONE NUMBERS (616) 337-8157 FAX (616) 337-8699

DEPARTMENT OF PUBLIC UTILITIES

Water Rec_iamation 1415 N. Harrison Kalamazoo Michigan 49007-2565 (616) 385-8,57

May 3, 1993

Certified Mail P 242 167 650

Mr. Jon Dewitt, Attorney Varnum, Riddering, Schmidt, and Howlett Suite 800 171 Monroe Avenue, N.W. Grand Rapids, MI 49503

Re: HM Holdings - Allied Paper Dewatering Lagoons

Dear Mr. DeWitt, Attorney:

LTI-Limno-Tech, Inc, on behalf of HM Holdings, Inc./Allied Paper, Inc, has presented us with a proposal for modifications to the Allied HRDL pretreatment system in a letter dated April 27, 1993. We have reviewed the proposal and agree that it appears to contain measures necessary to eliminate the possibility of PCB discharge to the Kalamazoo Water Reclamation Plant. We are willing to work with the company in their effort to regain authorization to discharge.

Conditional approval is being granted to resume discharges of treated water from the site to the Kalamazoo Water Reclamation Plant. The conditions are that the plan presented in LTI-Limno-Tech's letter of April 27, 1993 will be implemented in that:

- 1. All water will be run through the pretreatment system and held in a tank.
- 2. The tank's contents must be thoroughly mixed and a representative sample collected for Total PCB analysis.
- 3. If the analysis indicate that PCB is not present in detectable concentrations the batch may be discharged to the sanitary sewer system. The detection limit used shall not exceed 0.2 ug/l.
- 4. Under no condition shall a batch containing PCB be discharged.
- 5. A log of each batch and analysis shall be kept. The log shall contain the date the batch was sampled, results of the sampling, the date it was discharged, and whether it was

discharged to the Kalamazoo Water Reclamation Plant or returned to the lagoons.

6. A monthly report containing the information in number 5 plus the total volume discharged for the month shall be provided to the Kalamazoo Water Reclamation Plant, Industrial Services Section. The report shall be due by the tenth day of the following month.

Your efforts to develop a plan which protects the interests of all involved are appreciated.

Please contact the Industrial Services Supervisor at 337-8715 to work out the details regarding the resumption of wastewater discharge.

Sincerely,

Kenneth P. Collard Public Utilities Director

QP.Cll

KPC/km

c: G. Peterson - LTI

R. Amundson

R. Cinabro

B. Merchant

T. Meulenberg

B. Minsley

K. Mottinger



July 14, 1993

Mr. Bruce E. Merchant Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 N. Harrison Kalamazoo, MI 49007-2565

Re: HM Holdings, Inc./Allied Paper, Inc., HRDL Treatment Plant Monthly monitoring report for June, 1993.

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the historical residuals dewatering lagoons (HRDLs) at the Allied Paper site for June, 1993. Operations at the treatment plant resumed on June 1, 1993, after the systematic changes outlined in our April 27, 1993, letter were completed. The system is now discharging in batches of 20,000 gallons. A representative sample is collected from each batch and analyzed for PCBs prior to discharge. Enclosed with this letter are:

- 1) The operation log that presents the information requested in Mr. Collard's letter of May 3, 1993, to Mr. Jon F. DeWitt; and
- 2) The sample results for each batch that was discharged in June.

In summary, Allied pumped, treated and discharged a total volume of 120,000 gallons of water in six batches during the month of June. The laboratory results indicate that no PCBs were detected in the samples for any of the six batches, and therefore indicate compliance with the Administrative Order. In addition to the laboratory reports for the batches, I have also enclosed the results of the sampling that was performed on June 1, 1993. The June 1, 1993, sample was collected prior to filling the first tank, with

the system in recycle mode. On June 30, 1993, we also collected a sample for analysis of the semi-annual parameters. The results of those analyses will be forwarded upon there availability, along with a completed semi-annual discharge report.

If you have any questions regarding this report, please call me.

Sincerely,

LTI, Limno-Tech, Inc.

Gregory W. Peterson Project Manager

GWP/mrh

Enclosures

cc: Jon DeWitt
Jim Werling
Tim Meulenberg
Bob O'Day
Kent Mottinger

c:\peterson\july-93\ltbm7-15





August 10, 1993

Mr. Bruce E. Merchant Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 North Harrison Kalamazoo, Michigan 49007-2565

Re:

HM Holdings, Inc./Allied Paper, Inc., HRDL Treatment Plant

Monthly Monitoring Report for July 1993

Dear Bruce:

On behalf of HM Holdings, Inc./Allied Paper, Inc., this letter presents the monthly monitoring report for the pretreatment and discharge of water from the historical residuals dewatering lagoons (HRDLs) at the Allied Paper site for July, 1993. Systematic changes have been made in the treatment plant operation which resumed on June 1, 1993. The system now discharges in batches of 20,000 gallons. A representative sample is collected from each batch and analyzed for PCBs prior to discharge. Enclosed with this letter are:

- 1) The monthly operation, maintenance and sampling log;
- 2) The sample results for each batch that was discharged in July; and
- The Industrial Users Self-Monitoring Report for the period January 1, 1993 through June 30, 1993

In summary, Allied pumped, treated and discharged a total volume of 100,000 gallons of water in five batches during the month of July. The laboratory results indicate that no PCBs were detected in the samples for any of the four batches, and therefore indicate compliance with the Administrative Order. The semi-annual discharge report is also enclosed. The samples were collected on June 30, 1993 and analyzed at KAR Laboratories. The laboratory report is also attached

If you have any questions regarding this report, please call me.

Sincerely,

LTL Limno-Tech, Inc.

Gregory W Peterson Project Manager

Enclosure

cc Jon DeWitt
Jim Werling
Tim Meulenberg
Bob O'Day
Kent Mottinger

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2395 Huron Parkway - Ann Arbor, Michigan 48104 - Telephone: 313/973-8300 - (FAX): 313/973-1069
Other LTI Offices: South Bend, IN, and Washington, D.C





September 8, 1993

Seport reviewed by Bis 0 Pay 9-10-93 Bap

Mr Robert O'Day Industrial Services Supervisor The City of Kalamazoo Department of Public Utilities 1415 North Harrison Kalamazoo, Michigan 49007-2565

Re HM Holdings, Inc /Allied Paper, Inc , HRDL Treatment Plant Monthly Monitoring Report for August 1993

Dear Mr O'Day

On behalf of HM Holdings, Inc/Allied Paper, Inc, this letter presents the monthly monitoring report for the pretreatment and discharge of water from the historical residuals dewatering lagoons (HRDLs) at the Allied Paper site for August, 1993 Enclosed with this letter are

- 1) The monthly operation, maintenance and sampling log;
- 2) The analytical results for representative samples collected from each 20,000 gallon batch that was discharged in August

In summary, Allied pumped, treated and discharged a total volume of 100,000 gallons of water in five batches during the month of August The laboratory results indicate that no PCBs were detected in the samples for any of the five batches, and therefore indicate compliance with the Administrative Order Please note that the laboratory results for the sample collected from Tank A on August 26, 1993 had a PCB level of 0.4 ug/L (PCB-1254) This batch was not discharged to the Kalamazoo Water Reclamation Plant It will be returned to Lagoon #4 in September, 1993, and the tank will be pressure washed before it receives another batch

If you have any questions regarding this report, please call me

Sincerely,

LTI, Limno-Tech, Inc

Gregory W Peterson Project Manager

Enclosure

cc Jon DeWitt

Rob Markwell

Tim Meulenberg

Bruce Merchant

Kent Mottinger

c \jd7\sept-93\kzrepaug doc

LABORATORY COMMERCIAL SERVICES A Division Of Consumers Power Company Jackson, Michigan 49201

CHEMISTRY SECTION - ANALYTICAL REPORT

Grag Paterson Customer Name:

> LTI - Limno-Tech. Inc. 2395 Huron Parkway Ann Arbor, HI 48104

LCS Job Number: 519353-781-475 Report Date: 02-26-93

Site Location: Allied Paper - H.M. Holding

LTI - JD7-2 Project # Sample ID: Discharge

Sample Type: Water Collected By: lti

Sample Date: 02-24-93 Received Date: 02-25-93

Analysis Date: 02-26-93 LCS Control Number: 930475-01

PARAMETER	results ug/L	MDL ug/L	
PCB-1016	nđ	0.1	
PCB-1221	nd	0.1	
PCB-1232	nd	0.1	
PCB-1242	nd	0.1	
PCB-1248	0.18	0.1	
PCB-1254	nd	0.1	
PCB-1260	nd	0.1	
TOTAL PCB	0.18		

METHODS: PCB - Method 8080, Organchlorine Pesticides and PCB (PCB

Only). SW-846, Test Methods For Evaluating Solid Waste -

Physical / Chemical Methods, USEPA.

MDL = Method Detection Limit, ug/L (parts-per-billion)

nd = Parameter not detected At MDL

Total PCB = Sum Of Aroclor Concentrations

Data Ref: pcb3125

Date 02-26-93



June 28, 1994

Mr Robert O'Day
IPP Inspector
City of Kalamazoo
Department of Public Utilities
1415 North Harrison
Kalamazoo, Michigan 49007-2565

Re HM Holdings, Inc /Allied Paper, Inc Individual Control Document

Dear Mr O'Day

The purpose of this letter is to formally request a modification of the City of Kalamazoo Wastewater Service Individual Control Document (ICD) (as per Section I 2 b) for the HM Holdings, Inc/Allied Paper, Inc dewatering lagoons, which was issued in March, 1994. This request for modification of the ICD is intended to clarify the requirements of the ICD as they relate to the specific procedures being implemented at the Allied HRDLs.

We have reviewed and discussed the ICD with you, and it is our understanding that the operation and PCB monitoring requirements for the pretreatment plant at the Allied site, as stipulated in the Administrative order, have not been altered by the ICD. However, the ICD could be interpreted to impose sampling and reporting requirements beyond those that are and have been followed for the facility. Specifically, the ICD contains a requirement for collection of a minimum of four individual samples for each grab sample. You have indicated that this requirement is for continuous discharges only, and would not apply to the HRDL treatment plant operation.

In order to clarify other possible issues related to interpretation of or compliance with the ICD, we have provided the following list of procedures that are used at the Allied HRDL treatment plant. It is our understanding that these procedures comply with the ICD.

- 1 All water will be discharged through the pretreatment system to a holding tank
- The tank's contents will be thoroughly mixed and a representative sample will be collected for Total PCB analysis. The representative sample will consist of one grab sample from the holding tank.
- 3 If the analysis indicates that PCBs are not present in detectable concentrations, the batch will be discharged to the sanitary sewer system. The detection limit used shall not exceed 0.2 ug/l

- If the analysis indicates that PCBs are present at levels greater than the detection limits, the water will be discharged back to the dewatering lagoons condition will water containing PCB be discharged to the sanitary sewer system
- A log of each batch and analysis will be kept. The log will contain the date the batch was sampled, results of the sampling, the date it was discharged, and whether it was discharged to the Kalamazoo Water Reclamation Plant or returned to the lagoons
- 6 A monthly report containing the above information, plus the total volume discharged for the month will be submitted by the tenth of each month, to the Kalamazoo Water Reclamation Plant, Industrial Services Section to your attention

In addition, it is our understanding that the new ICD does contain a change in the semi-annual reporting requirements. Analyses are no longer required for the regulated pollutants. cadmium, chromium, copper, lead, nickel, zinc, cyanide, petroleum hydrocarbon, pH, and mercury. It is our understanding that the monitoring requirements for these parameters were not included in the ICD because the concentrations of these constituents in the pretreated water have been consistently much lower than the discharge limits for every sample tested over the last three years. Therefore, it is our understanding that the semi-annual Self-Monitoring Report will include only the information for average and maximum daily flows for the period. The semi-annual Self-Monitoring Report for the period January 1, 1994 to June 30, 1994 will be submitted by July 10, 1994. If we do not receive the report forms from the City of Kalamazoo stating otherwise, the report will contain only the information for average and maximum daily flows for the period

If your understanding of these issues is the same as ours, and if you accept this letter as a modification to the ICD, please indicate so by signing below and returning a copy of this letter to LTI For your convenience we have included a self-addressed stamped envelope. If you have any questions or comments regarding this letter, please do not hesitate to contact either one of us

LTI-Limno-Teeh. Inc

Gregory W Peterson Program Manager

Sincerely,

LTI - Limno-Tech, Inc

M Catherine Whiting

In Catherine Whit

Project Engineer

Robert O'Day, IPP Inspector

City of Kalamazoo

Date 7-8-94

Sample Date	Value	Units	Sample Type
11/10/92	(BDL)	ug/1	SM GRAB
11/18/92	(BDL)	ug/l	GRAB
11/25/92	(BDL)	ug/l	SM GRAB
12/01/92	(BDL)	ug/l	SM GRAB
12/18/92	(BDL)	ug/l	GRAB
12/23/92	0.140	ug/l	SM GRAB
01/04/93	(BDL)	ug/l	SM GRAB
02/02/93	(BDL)	ug/l	SM GRAB
02/08/93	(BDL)	ug/l	GRAB
02/24/93	0.180	_	SM GRAB
06/03/93	(BDL)	ug/l	SM GRAB
06/08/93	(BDL)	ug/l	SM GRAB
06/11/93	(BDL)	ug/l	SM GRAB
06/25/93	(BDL)	ug/l	SM GRAB
Ø6/26/93	(BDL)	ug/l ug/l	SM GRAB SM GRAB - 6/26
06/27/93 06/30/93	(BDL) (BDL)	ug/1 ug/1	SM GRAB - 6/26 SM GRAB
07/01/93	(BDL)	ug/l ug/l	SM GRAB
07/01/93	(BDL)	ug/l	SM GRAB
07/13/93	(BDL)	ug/l	SM GRAB
07/14/93	(BDL)	ug/l	SM GRAB
07/15/93	(BDL)	ug/l	SM GRAB
08/21/93	(BDL)	ug/l	SM GRAB
08/22/93	(BDL)	ug/l	SM GRAB
08/23/93	(BDL)	ug/l	SM GRAB - 8/22
08/27/93	(BDL)	ug/l	SM GRAB
08/28/93	(BDL)	ug/l	SM GRAB
09/30/93	(BDL)	ug/l	SM GRAB
10/01/93	(BDL)	ug/l	SM GRAB
10/07/93	(BDL)	ug/l	SM GRAB
10/08/93	(BDL)	ug/l	SM GRAB
10/14/93	(BDL)	ug/l	SM GRAB
10/15/93	(BDL)	ug/1	SM GRAB
11/05/93	(BDL)	ug/l	SM GRAB
11/11/93 11/12/93	(BDL)	ug/l	SM GRAB SM GRAB
11/17/93	(BDL)	ug/l	SM GRAB
11/19/93	(BDL)	ug/l	SM GRAB
11/20/93	(BDL)	ug/l	SM GRAB - 11/19
11/24/93	(BDL)	ug/l	SM GRAB
11/25/93	(BDL)	ug/l	SM GRAB - 11/24
12/01/93	(BDL)	ug/l	GRAB
12/02/93	(BDL)	ug/l	SM GRAB - 12/1
12/03/93	(BDL)	ug/l	SM GRAB - 12/1
12/04/93	(BDL)	ug/l	SM GRAB
12/05/93	(BDL)	ug/l	SM GRAB - 12/2
12/14/93	(BDL)	ug/l	GRAB
03/23/94	(BDL)	ug/l	SM GRAB
03/24/94	(BDL)	ug/l	SM GRAB
03/31/94	(BDL)	ug/l	SM GRAB
04/01/94	(BDL)	ug/l	SM GRAB
04/02/94 04/07/94	(BDL)	ug/l	SM GRAB - 4/1
04/07/94	(BDL) (BDL)	ug/l ug/l	SM GRAB SM GRAB
04/08/94	(BDL)	ug/l ug/l	SM GRAB
V=/4//34	(101)	uy/ I	SH OKED

PCB RESULTS FROM HM HOLDING FROM 10/1/92 - PRESENT

Sample Date	Value	Units	Sample Type
04/28/94	(BDL)	ug/l	SM GRAB
04/29/94	(BDL)	ug/l	SM GRAB - 4/29
05/19/94	(BDL)	ug/l	SM GRAB
05/20/94	(BDL)	ug/l	SM GRAB
05/21/94	(BDL)	ug/l	SM GRAB - 5/19
05/25/94	(BDL)	ug/l	SM GRAB
05/26/94	(BDL)	ug/l	SM GRAB - 5/25
07/14/94	(BDL)	ug/l	SM GRAB
07/15/94	(BDL)	ug/l	SM GRAB - 7/14
07/18/94	(BDL)	ug/l	SM GRAB
07/20/94	(BDL)	ug/l	SM GRAB
07/21/94	(BDL)	ug/l	SM GRAB - 7/20
07/26/94	(BDL)	ug/l	SM GRAB
07/27/94	(BDL)	ug/l	SM GRAB
07/29/94	(BDL)	ug/l	SM GRAB
08/02/94	(BDL)	ug/l	SM GRAB
08/03/94	(BDL)	ug/l	SM GRAB
08/04/94	(BDL)	ug/l	SM GRAB - 8/3
08/10/94	(BDL)	ug/l	SM GRAB
08/19/94	(BDL)	ug/l	SM GRAB
08/24/94	(BDL)	ug/l	SM GRAB
09/15/94	(BDL)	ug/l	SM GRAB
09/16/94	(BDL)	ug/l	SM GRAB - 9/15



Fire & Environmental Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167 FAX (517) 332-6333 Indianapolis (317) 879-0913 FAX (317) 879-0914

February 15, 1993

Mr. Nasim Ansari
1415 N. Harrison
Kalamazoo, MI 49007

Re: Comfirmation of PCB analysis for sample tagged: 1 TE 00893 (FECL #AA00117)

Dear Mr. Ansari:

This letter is to confirm the PCB results reported in our Analytical Laboratory Report dated January 12, 1993. Based on the analyses performed by Fire & Environmental Consulting Laboratories, Inc. (FECL) using Methods 3510/3550 and 608/8080, we have determined that the above-referenced sample contains 1.3 ug/L PCB. The closest match is Arochlor 1248.

If you have any questions regarding these analyses, please call me at (517) 332-0167.

Very truly yours,

Michael G. Goergen

President

MGG/amd

Mirtur 112 to



LTI-Limno-Tech, Inc. Environmental Engineering

2395 Huron Parkway Ann Arbor, Michigan 48104

Facsimile Cover Sheet

Date:

11/7/94

To:

Tim Meulenberg

Company:

City of Kalamazoo

Phone:

616-337-8157

FAX:

616-337-8699

From: Phone:

Cathy Whiting

(313) 973-8300

FAX:

(313) 973-1069

Original:

Will follow by mail:

Will not follow:

Will follow via Federal

Express:

Number of Pages: 2 (Including Cover Sheet)

Comments:

in regards to your telephone conversation today with Greg Peterson, I have attached a summary of the treatment plant operation at the Allied site in Kalamazoo, for the period from December 1992 through February 1993.

Project Code: JD7 Task: 2

Date	Volume	Sample	Results	Date	Volume	Sample	Results	
12/1/92	0	X	ND	1/16/93	55,000	рилиріф	11331111	
12/2/92	0			1/17/93	52,000	 		
12/3/92	28,000			1/18/93	13,000	Results fro	m 12/23/92	received
12/4/92	25,000		†	1/19/93	0	System shu		10001100
12/5/92	0			1/20/93	0	O Section and	I WOWN	 -
12/6/92	0			1/21/93	0	 		
12/7/92	6,000		 	1/22/93	0			
12/8/92	0			1/23/93	0	 		
12/9/92	0		· · · · · · · · · · · · · · · · · · ·	1/24/93	0	 		
12/10/92			 	1/25/93	0	 		
12/11/92	25,000			1/26/93	0			
12/12/92	0			1/27/93	0	 		
12/13/92	0			1/28/93	0	 		
12/14/92	0			1/29/93	0			
12/15/92	0			1/30/93	0			
12/16/93	28,000			1/31/93	0			
12/17/92	20,000			2/1/93	0		<u></u>	
12/18/92	0			2/2/93	0	X	ND	
12/19/92	0			2/3/93	20,000	 		
12/20/92	0			2/4/93	42,000	1		
12/21/92	0	··		2/5/93	47,000	 		
12/22/92	0			2/6/93	44,000			
12/23/92	29,000	X	0.14 ug/l	2/7/93	40,000		<u> </u>	
12/24/92	32,000		0,5105	2/8/93	46,000		<u></u>	
12/25/92	0			2/9/93	44,000	 		
12/26/92	0			2/10/93	38,000			
12/27/92	0			2/11/93	35,000	 		
12/28/92	0			2/12/93	43,000			
12/29/92	0			2/13/93	30,000			
12/30/92	0			2/14/93	0	 		
12/31/92	6,000			2/15/93	0	1		
1/1/93	0			2/16/93	0			
1/2/93	0			2/17/93	0			
1/3/93	0			2/18/93	0			
1/4/93	0	х	ND	2/19/93	15,000	†		
1/5/93	25,000			2/20/93	20,000			
1/6/93	74,000		 	2/21/93	0			
1/7/93	75,000			2/22/93	15,000			
1/8/93	75,000			2/23/93	35,000			
1/9/93	15,000		_	2/24/93	35,000	X	0.18 ug/l	
1/10/93	0			2/25/93	0		t down unti	16/1/93
1/11/93	20,000			2/26/93	0			
1/12/93	20,000			2/27/93	0	†		
1/13/93	36,000			2/28/93	0	 		
1/14/93	65,000					 		
1/15/93	64,000		·		 	 		



Fire & Environmental Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167 FAX (517) 332-6333 Indianapolis (317) 577-8087 FAX (317) 594-9406

February 22, 1995

Mr. Tim Meulenberg City of Kalamazoo 1415 North Harrison Kalamazoo, MI 49007

Dear Mr. Meulenberg:

Enclosed are the chromatograms requested during our meeting of Monday, February 20. If you have any further questions please feel free to call me.

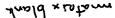
Sincerely,

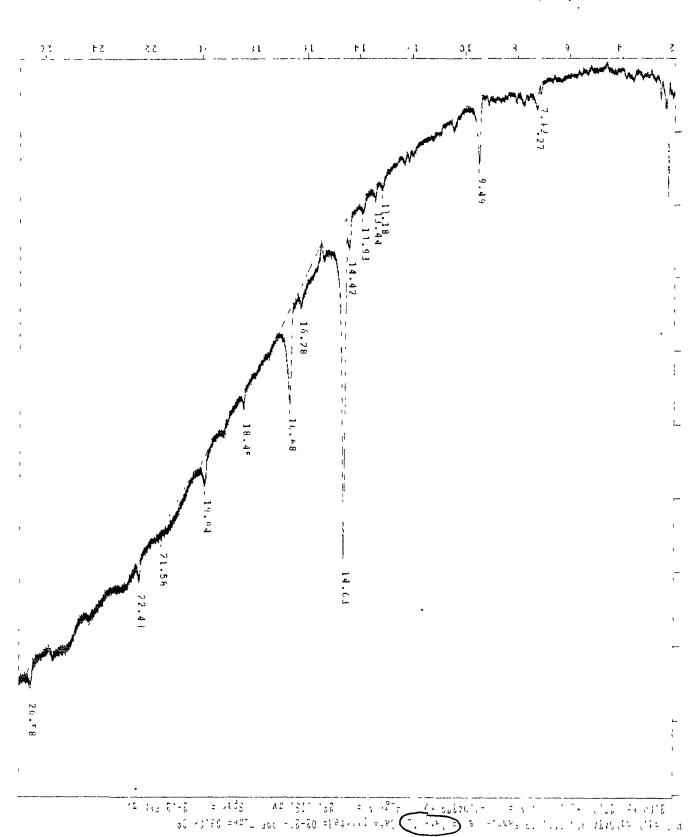
Michael Carlson

MC/ad

enclosure

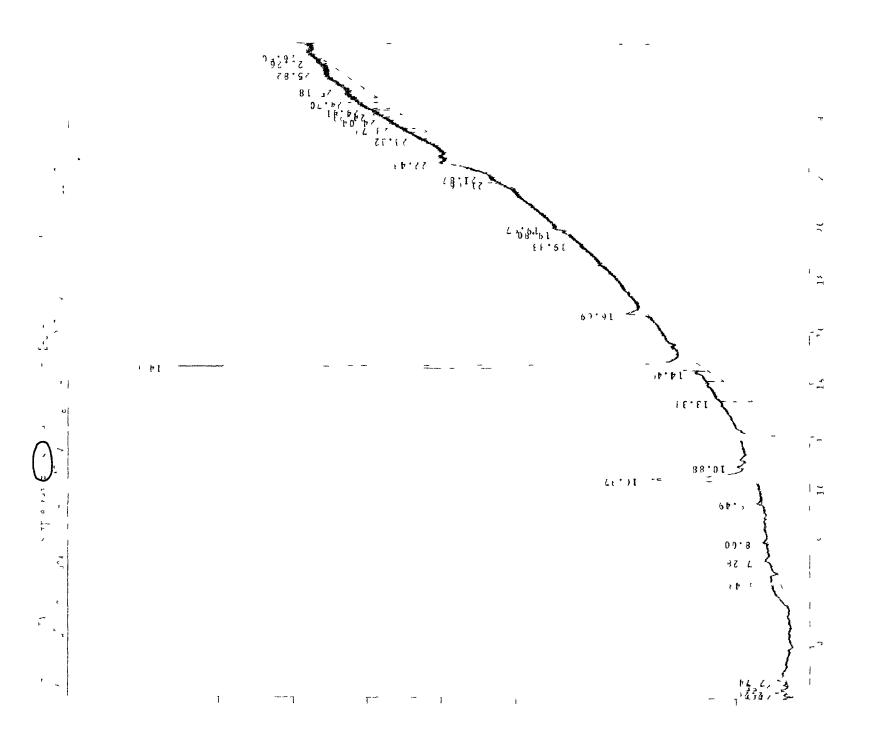
Garley 1248 stondard

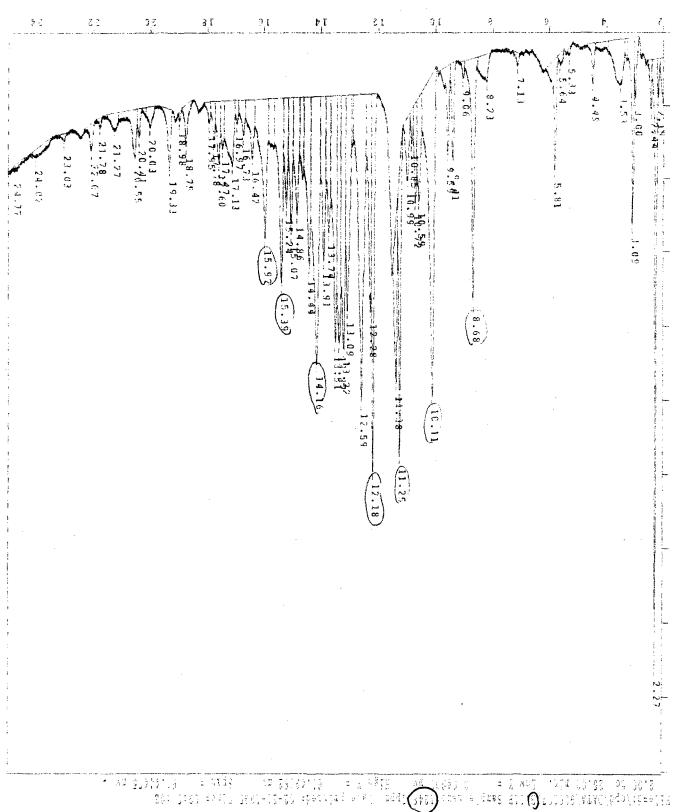




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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

GREAT LAKES NATIONAL PROGRAM OFFICE 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

JUL 1 J. 1995]

Mr. Robert E. DeMink
Wastewater Superintendent
Department of Public Utilities
The City of Kalamazoo
1415 N. Harrison
Kalamazoo, Michigan, 49007-2565

Dear Mr. DeMink:

Thank you for your letter of March 8 concerning our paper titled "PCB Sources and Regulations" in which we cited PCB discharges from Kalamazoo's water reclamation plant (KWRP) during 1993. This paper was developed to support our "Virtual Elimination" project, which aims to spur further reductions in environmental levels of mercury and PCBs in common sense ways.

Your letter stated that cited PCB discharges from KWRP were unrepresentative. We are pleased to adopt Alternative One in your letter, based on the supplementary sampling data you provided. This averages all effluent samples during the relevant time period, which is consistent with how we have adjusted discharge estimates for other facilities when they have provided supplementary effluent samples. As a result, we have halved KWRP's estimated discharge of PCBs during 1993. In future copies of our Virtual Elimination paper, we will reflect this revised estimate.

I should explain why your preferred Alternative Two is less consistent with our method and suited to our purpose. Including influent and biosolid samples and expanding the time period would be inconsistent with our estimation method. The purpose of our estimates is to provide an "indicator" of aggregate discharges from all reporting facilities (rather than the discharge from KWRP or any other in particular). We expect that over hundreds of dischargers, some of the episodic variance in PCB detections "evens out," yielding a best estimate of aggregate PCB discharges to the Great Lakes from the United States side.

Your letter also expressed concern regarding regulation of PCBs under the Toxic Substances Control Act (TSCA): "burdens are eliminated when PCB concentrations fall below 50 mg/l. This regulatory philosophy may be beneficial to the parties regulated under TSCA, but creates a compliance nightmare for Great Lakes POTWs." Bioaccumulation in aquatic food webs is

the principal risk posed by PCBs, hence water quality criteria are appropriately low. PCBs present much less human health risk via other paths, such as the terrestrial food chain, drinking water, and inhalation. TSCA rules generally do not regulate disposal of PCB wastes with concentrations beneath 50 parts per million (ppm). Yet the apparent difference between TSCA and the Clean Water Act can be at least partly reconciled in that TSCA does not govern direct discharging of undiluted PCBs under 50 ppm to surface waters. Put another way, TSCA does not allow pouring of PCB wastes into surface water, so in that sense TSCA and the Clean Water Act are consistent.

Also, your letter recommended that EPA provide publiclyowned treatment works (POTWs) with a list of companies where this Agency has record of PCB use. EPA currently does not have records concerning companies in the Great Lakes watershed which hold PCBs. However, proposed regulations would require firms holding PCB transformers to inform EPA. If this provision is finalized, we would provide such information to you as soon as it became available.

In relation to your letter's recommendation for educational programs regarding PCB disposal, my office would certainly consider grant proposals from POTWs to support innovative outreach to their customers.

Publicly-owned treatment systems have been responsible for noteworthy progress in protecting public health and the environment during the past several decades. In few places is this legacy more evident than in the Great Lakes watershed. Yet your letter makes evident that you have concerns about "billions" of environmental costs facing POTWs. EPA's own estimates of the costs entailed in its recently promulgated Great Lakes Water Quality Guidance are far lower and are available to the public. In addition, this Agency is broadly committed to achieve, in the recent words of Administrator Browner, "common-sense, costeffective measures that produce the very best environmental results for the least cost."

Thank you for taking the time to express your concerns. I apologize that we have not responded more quickly; your letter raised several cross-cutting issues, hence this response necessitated coordination which consumed time. If you have further questions, please call me at (312) 886-4040, or Frank Anscombe of my staff, 353-0201.

Sincerely yours

ehris Grundler

Director

cc: Kenneth P. Collard, Public Services Director, City of Kalamazoo Tracey Mehan, Michigan Department of Natural Resources Rich Powers, Michigan Department of Natural Resources Greg Danneffel, Michigan Department of Natural Resources

Maggie Fields, Michigan Department of Natural Resources



DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamazoo Michigan 49007-2565 (616) 337-8157 FAX (616) 337-8699

March 8, 1995

Certified Mail # Z 121 542 834

Mr. Chris Grundler U.S. EPA Great Lakes Program Director 77 West Jackson Blvd. Chicago, IL 60604

RE: Clarification of Reported PCB Discharges from the City of Kalamazoo Water Reclamation Plant (KWRP) and Comments on the Regulatory Impact PCBs Pose to Great Lakes POTWs.

Dear Mr. Grundler:

We were recently informed of a report titled "Polychlorinated Biphenyls (PCBs): Sources and Regulations". The report was prepared for the U.S. EPA Great Lakes National Program Office by Ross and Associates Environmental Consulting, Inc. Thank you for sending a copy of this report.

There are a couple of issues that we would like to raise in light of this report. First, we respectfully request that you revise the estimate for KWRP PCB contributions to the Great Lakes Basin. As you requested, we have provided some background information so you can comfortably accept one of the alternative estimates provided in the following pages.

An additional concern we have is the lack of significance the U.S. EPA places on PCB contaminated materials with concentrations less than 50 mg/l. The levels of PCB concentrations considered insignificant to TSCA, are extremely significant to a POTW's NPDES Permit. We will be more specific on this issue following our explanation for requesting an adjustment in the published 1993 KWRP PCB contributions to the Great Lakes Basin.

Mr. Chris Grundler March 8, 1995 Page 2 of 9.

Listed NPDES Sources of PCBs

A section of this report included data generated by EPA's Permit Compliance System which approximates point source loads from municipal and industrial dischargers. Eight facilities were listed as having reported PCB discharges in Region 5 during 1993. The City of Kalamazoo Water Reclamation (KWRP) along with the Bay City POTW were ranked the two most significant dischargers with each having discharged 4 96 kilograms of PCB's in 1993. The loading estimate for the KWRP PCB contributions is based on one data point and is in error as a result of a clerical mistake made on our part. Aside from the clerical mistake, it is difficult to understand how the KWRP could be ranked with the Bay City POTW which consistently has detectable levels of PCBs in their discharge. Therefore, we respectfully request that you consider the following arguments in adjusting the estimate for KWRP PCB contributions in 1993

1993 KWRP Discharge Report

The January 1993 KWRP Discharge Monitoring Report erroneously stated that the average PCB concentration discharged for the month was 1 3 ug/l. Actually there were two samples of KWRP Effluent collected and analyzed for PCBs in January 1993. The first sample was collected on January 8, 1993 and analysis indicated a concentration of 1.3 ug/l for PCB Arochlor 1248. The second sample of KWRP Effluent, collected on January 13, 1993, indicated < 0.1 ug/l for total PCBs. Averaging the two data points reduces KWRP PCB loadings to the Great Lakes Basin by 50%.

Environmental Overview

We perceive the primary objective of this report is to responsibly provide an accurate assessment of PCB loadings to the Great Lakes Basin. The KWRP discharges more than 32 million gallons a day of reclaimed wastewater to the Kalamazoo River Basin. Because the river basin is classified as a PCB contaminated superfund site, we consider the KWRP PCB loadings estimate published in the Ross and Associates Report a very serious matter. The source of the Kalamazoo River contamination has been determined to be the result of past practices associated with recycled paper mills. We therefore believe it is necessary to consider all of the KWRP PCB monitoring data when estimating the assumed KWRP PCB Contribution to the Great Lakes Basin.

In addition to the following summary of KWRP PCB monitoring data, we will also present several estimates that provide a more realistic estimate of 1993 KWRP PCB loadings to the Great Lakes Basin

Mr. Chris Grundler March 8, 1995 Page 3 of 9.

KWRP Operations and PCBs

The KWRP is an activated sludge plant with enhanced treatment capabilities due to the addition of powdered carbon in secondary aeration combined with tertiary sand filtration.

PCBs are not water soluble and are significantly heavier than water weighing ten (10) to twelve (12) pounds per gallon. Their tendency in a typical activated sludge plant is to settle with the primary and secondary biosolids. In the event that PCBs were carried over into the KWRP secondary process, they would have a very strong attraction to the powdered carbon in the secondary aeration tanks

In the event that PCBs are carried into the secondary process, they would not be biologically degraded. They would be removed in the portion of the secondary biosolids that is wasted, thickened and sent to the KWRP Wet Air Regeneration (WAR) process. The WAR process uses pressures of almost 1,000 psi and temperatures of 475 degrees F to treat secondary thickened sludge. Any PCBs associated with the WAR process will end up in the DSE Ash and disposed in a sanitary landfill.

The KWRP maintains a greater than one to one ratio of carbon to biomass (C/B). There is typically over 100,000 lbs of activated carbon contained within the secondary process at any one time. During the month of January 1993 the average C/B ratio was 1 34. On January 8, 1993, the C/B ratio was 1 7

We were recently informed of a U.S. EPA Research Development Document 600/8-80-023 titled Carbon Adsorption Isotherms for Toxic Organics. This document states theoretical carbon adsorption capacities for PCB Aroclors. According to this document, if we assume an influent concentration of 1.0 ug/l, for PCB Aroclor 1221, the adsorption capacity would be 1.9 mgs. per gram of carbon. The adsorption capacity for PCB Aroclor 1232 is figured to be 4.0 mgs. per gram of carbon.

The adsorption capacity of carbon for PCBs implies that the KWRP provides some of the best technology available for a POTW to remove PCBs from wastewater. The heavy molecular weight of PCBs, combined with the use of carbon in the KWRP secondary process provides a considerable argument that if the KWRP were receiving any significant quantity of PCBs, there should be confirming evidence through biosolids monitoring

KWRP PCB Monitoring Program

Monitoring for PCB's in the KWRP Effluent has occurred since 1987. All monitoring is performed using a grab sample technique. A total of 145 effluent samples have been collected and analyzed for PCB's as of October 1994. The detection limit for effluent PCB monitoring has always been 0.1 ug/l or lower since monitoring for PCBs began in 1987.

Mr. Chris Grundler March 8, 1995 Page 4 of 9.

Since October 1990, the KWRP has monitored the Municipal and Industrial Influent, as well as the Final Effluent two (2) times per month. Except for a rare occurrence of matrix interference, the detection limit has consistently been 0.1 ug/l for both Municipal and Industrial Influents. This sampling provides us with more than one hundred and eighty (180) additional data points for assessing PCB loadings to and throughout the KWRP Process.

Since October 1990 we have also monitored the Belt Press Cake, Incinerator Ash and DSE Ash two (2) times per month. These samples represent biosolids sent to landfills and provides in excess of two hundred and seventy additional data points to assess potential PCB contributions to the KWRP. Except for a couple of occasions of matrix interference, the detection limit for PCBs in biosolids has been < or = 0.33 mg/kg

PCB Detected in Isolated Incidents

A review of all KWRP Data collected from all six locations since 1987, indicates that PCBs have been detected on three (3) isolated occasions. Neither of these events were supported by detectable levels of PCBs in the other monitoring locations. On October 10, 1991, PCBs were detected in the Incinerator Ash at the detection limit of 0.01 mg/kg. On January 8, 1993, PCBs were detected in the Tertiary Effluent at 1.3 ug/l. Finally, on June 6, 1994, PCBs were detected at the detection limit of 0.1 ug/l in the Municipal Primary Influent.

Since establishing a very thorough program, by monitoring in six KWRP locations for PCBs in October 1990, the KWRP has collected and analyzed over 550 samples for PCBs. Aside from the three isolated samples previously mentioned, there is only one incident where the KWRP has documented definite contributions of PCBs. This incident is also the first incident where the KWRP detected PCBs since 1987.

KWRP Monitoring Documents PCBs Discharged to the Plant

On November 1, 1990, the analytical results of KWRP monitoring indicated PCB concentrations of 2.4 mg/kg in the Incinerator Ash, 0.85 mg/kg in the Belt Press Cake, and 11.7 mg/kg in the DSE Ash—PCBs were not detected in the Industrial and Municipal Influents or the Tertiary Effluent—Previous monitoring performed October 17, 1990 indicated no detectable levels of PCBs in any of the monitoring locations

The next monitoring event, for all six locations, conducted on November 14, 1990 indicated PCB concentrations of 3 3 ug/l in the Municipal Influent only December 1990 monitoring for all six locations, indicated PCB concentrations of 2 8 ug/l on December 5, 1990 and PCB concentrations of 3 3 ug/l on December 14, 1990 for the Tertiary Effluent monitoring location only.

Mr. Chris Grundler March 8, 1995 Page 5 of 9

We traced this incident to vandalism at an abandoned production facility, classified as a Michigan Act 307 Site, where a PCB transformer had been emptied for the scrap value of the copper contained inside. This incident demonstrates a logical hypothesis for the fate of PCBs received by a typical activated sludge plant. Monitoring indicated that the KWRP was probably receiving intermittent discharges of PCBs for more than a month before carryover to the Tertiary Effluent. PCBs accumulated in the biosolids well in advance of any break through from the KWRP powdered carbon process Sampling performed on January 4, 1991 indicated that we were still receiving intermittent PCB contributions in the influent but PCBs were not detected in the biosolids or Tertiary Effluent Sample

Pertinent Information for Reassessing 1993 KWRP PCB Loadings

If we exclude the monitoring associated with this documented incident mentioned in the two previous paragraphs, we have well over 525 data points that document the KWRP has not received detectable levels of PCBs. We therefore request that you consider the following in reevaluating 1993 KWRP PCB loadings to the Great Lakes Basin.

- 1. The large number of data points that show nondetect for PCBs
- 2. In the isolated events that PCBs were detected, there was no supporting data to confirm that the KWRP was actually receiving PCBs
- Out of 145 KWRP Tertiary Effluent samples, only three have indicated detectable levels of PCB. Two of the three samples occurred during the November through December 1990 event
- The isolated incident of January 8, 1993 monitoring indicated 1 3 ug/l of PCBs without any supporting KWRP data collected before, during or after the monitoring event
- Monitoring data collected before and after January 8, 1993 verified that there were no detectable levels of PCBs in the KWRP effluent or any other KWRP monitoring locations
- The November 1, 1990 through January 4, 1991 PCB incident documented that it was necessary for the biosolids to acquire a considerable accumulation of PCBs before any effluent breakthrough occurred
- 7 The KWRP carbon to biomass ratio was very high In January 1993 with January 8, 1993 having the highest ratio of the month

Mr. Chris Grundler March 8, 1995 Page 6 of 9.

Alternative Calculations of KWRP PCB Loadings.

With the support of the previously mentioned information, we respectfully request that you consider one of the following methods for calculating KWRP PCB contributions to the Great Lakes Basin. We will present the least representative estimate first and present the most probable estimate last.

Alternative # 1. Use the Additional Data Point.

This method would use the data left out of the monthly discharge report by Including the January 13, 1993 data point of zero and reduce by 50% the 1993 KWRP PCB contributions. 4.96 kg. (50%) = 2.48 kg.

The KWRP has developed an extensive data base generated over a seven year period. The data base consistently shows non-detect for PCBs. We therefore feel that it is inappropriate to use one data point, indicating PCBs may be present, and draw the conclusion that PCBs are continuously being discharged.

If we must assume that PCBs were being discharged during the period that monitoring was not being performed, then it would be far more appropriate to consider all of the historical data associated with PCB monitoring. We suggest an alternative approach that would use the total number of samples collected and analyzed for PCBs and develop a percentage of samples that indicated detectable levels of PCBs.

Since we are developing presumed loading for PCBs based upon undocumented evidence then we feel it would be inappropriate to use the monitoring data associated with the documented incident of November 1990 through January 1991. This will reduce the total number of samples used in developing a percentage of assumed noncompliance from 550 to 525 samples. With this in mind, we respectfully request the Great Lakes National Program Office consider the following estimate for KWRP PCB contributions to the Great Lakes Basin.

Alternative # 2. Assume an Appropriate Percentage of Noncompliance.

With the exclusion of the monitoring data associated with documented incident in late 1990, we have over 525 KWRP PCB monitoring data points to consider. A review of this data indicates that PCBs were detected on (3) occasions with only one incident indicating PCBs in the KWRP effluent. If we assume this monitoring data to be an assessment of the KWRP discharge, then we will assume that the KWRP has PCBs in its discharge 0.19 % of the time. The new estimate of KWRP PCB loadings is then figured to be .009 kgs to the Great Lakes Basin.

Mr. Chris Grundler March 8, 1995 Page 7 of 9.

KWRP Mercury and PCB Minimization Efforts

The KWRP has been working on Mercury and PCB minimization efforts with the Industrial User (IU) Community since October 1990. We have focused most of our time on Mercury and the success of our community efforts is evident in the significant reductions of mercury contributions from IU monitoring locations. We have also documented a significant reduction of mercury concentrations in the KWRP biosolids sent to the landfill.

Our success in keeping PCBs out of the sewer system is also well documented. Fortunately, PCBs are so rarely detected it is impractical to show any trends. The KWRP has developed an extensive data base that utilizes numerous monitoring locations within various stages of the KWRP treatment process. We have also performed extensive monitoring of the IU community and feel that it is inappropriate to compare the KWRP PCB discharge with the Bay City POTW PCB discharge. The Bay City POTW PCB monitoring data consistently shows significant concentrations of PCBs in their biosolids and consistently documents detectable levels of PCBs in their effluent monitoring.

We firmly believe that the concentration of PCBs detected in the January 8, 1993 grab sample was not representative of the days discharge and was erroneously used to represent KWRP PCB loadings to the Great Lakes Basin. We respectfully request that you please give consideration to accepting the alternative KWRP PCB loadings estimate of .009 kgs. previously mentioned and provide an explanation of the 1993 loading estimate in your 1994 report

PCB Regulatory Issues

As we mentioned in the first page of this correspondence, there is a second issue we would like to address regarding the regulation of PCBs. Generally speaking, we view the effort by the Great Lakes National Program Office to focus attention on the PCB regulatory issue, a positive step forward. The report prepared by Ross and Associates provides valued insight into the varied and numerous uses as well as potential deficiencies in the regulations pertaining to PCBs.

Under the current regulatory framework, activities associated with the use of PCBs will fall into a regulated or unregulated category. Most of the unregulated uses of PCBs are considered insignificant to the TSCA because of the PCB concentration. Our concern is that the unregulated uses as well as regulated uses can cause NPDES permit violations if they enter the sanitary sewer system. The U.S. EPA has determined that the justification for the continued use of PCBs lies in the reasoning that the allowed regulated activity does not surpass the threshold of "no unreasonable risk".

Mr. Chris Grundler March 8, 1995 Page 8 of 9.

We think it is important to rephrase the previous statement to read that the U.S. EPA has determined that the value of the activity associated with the use of PCBs is greater than the acceptable reasonable risk. Were the billions of dollars in expenditures that will be necessary for POTWs to consistently meet NPDES Permit Limits factored into the acceptable risk equation?

In the introduction of the PCB Sources and Regulations Report prepared by Ross and Associates, the following statement is made. "In a span of less than 20 years, PCBs have moved from one of the most widely used chemicals to one of the most tightly controlled". From the perspective of a Great Lakes POTW, we must strongly disagree with this statement. We will try to clarify the basis for this perspective in the following paragraphs.

In December we had several phone conversations with Mr. Tony Silvasi the U.S. EPA Region 5 TSCA representative. We were referred to him by the MDNR who no longer has anything to do with the regulation of PCBs. We requested a list of facilities in Kalamazoo County that had PCB capacitors or transformers. Such a geographical list could not be provided, but if we furnished a list of facilities by name, Mr. Silvasi would be able to inform us whether or not such equipment was on site. In other words, a list can be generated by company name only.

With our limited experience, we have found that abandoned facilities pose one of the greatest threats to POTW compliance issues related to PCBs. Company names are long forgotten and ownership may have changed several times since the original notification. We think as part of the "virtual elimination" effort, it would be very beneficial to develop a list of address locations where any activity associated with the use of PCBs has occurred. This list would then be provided to Great Lakes POTWs.

PCBs are contained in older appliances and older consumer product items such as a fluorescent lamp ballast. These uses and current uses or activities where PCB concentration drops below 50 mg/l, are not regulated under TSCA. We have performed some calculations to assess the impact of a PCB lamp ballast on a POTW. As stated in the Virtual Elimination Report, one PCB ballast capacitor will contain 1 ounce of dielectric fluid. Assuming complete mixture in 32,000,000 gallons of water and a fluid concentration of 500 mg/l, the fluid from one lamp ballast could cause a KWRP NPDES Permit violation by exceeding the PCB limit of 0.00002 ug/l.

Under TSCA, PCBs become PCB contaminated once concentrations drop below 500 mg/l and are no longer considered a regulated PCB activity when concentrations drop below 50 mg/l. Designed within the TSCA regulatory framework is an incentive to encourage the removal and proper disposal of PCBs. The regulatory framework relies on the "theory of increasing regulatory burdens and management requirements" associated with higher concentrations of PCBs. All regulatory burdens are eliminated when PCB concentrations fall below 50 mg/l. This regulatory philosophy may be beneficial to the parties regulated under TSCA, but creates a compliance nightmare for Great Lakes POTWs.

Mr. Chris Grundler March 8, 1995 Page 9 of 9.

In an effort to encourage a more rapid and proper disposal of PCBs, U.S. EPA Region 5 has developed a PCB Phasedown Program designed to seek cooperative solutions with the Region's utilities for the removal of PCB capacitors and transformers. As part of the program, EPA has requested the help of major electric utilities in developing an outreach program where the utilities would contact their customers and utilities to influence participation in the Phasedown Program. In addition to assistance programs like the Phasedown Program, we would like to recommend the development of educational programs that would be directed towards the general public.

Because of the environmental and legal significance associated with the reported KWRP 1993 PCB loadings to the Great Lakes Basin, we insist that the U.S. EPA insure that a correction or clarification is printed in the next report on the Virtual Elimination Pilot Project. We hope that you will favorably consider Alternative # 2 in printing the adjustment for estimating the KWRP 1993 PCB loading to the Great Lakes Basin. We are sure that you recognize the significance of this estimate.

We are also looking forward to your consideration of the concerns we have raised pertaining to the PCB regulatory issues and the affect they may have on Great Lakes POTW NPDES Permits.

If you have any questions or would like to discuss any issues presented in this correspondence, please feel free to call. Tim Meulenberg at (616) 337-8716.

Sincerely, Robert E. Wellink

Robert E. DeMink

Wastewater Superintendent

c: Kenneth P. Collard, Public Services Director Robert Cinabro, City Attorney Bruce Minsley, Deputy Public Services Director Bruce Merchant, Assistant Wastewater Superintendent Tim Meulenberg, Industrial Services Supervisor Bob O'Day, Industrial Inspections Supervisor Greg Danneffel, MDNR Maggie Fields, MDNR

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

TO:

July July

Waste Haulers/Interested Parties

FROM:

PCB Unit

Michigan Department of Natural Resources

SUBJECT: Information Packet

Enclosed is the information packet on PCBs (polychlorinated biphenyls) which you requested.

If you have any questions, please call:

Philip L. Schrantz

or

Tim McGarry

Department of Natural Resources
Hazardous Waste Division
PCB Unit
P.O. Box 30028
Lansing, MI 48909

517-373-2730

Thank you.



FACT SHEET POLYCHLORINATED BIPHENYLS

Polychlorinated biphenyls, also referred to as PCBs, belong to a family of organic compounds known as chlorinated hydrocarbons. PCBs were produced in the United States between 1929 and 1977, when the primary U.S. manufacturer voluntarily stopped making them because of mounting public concern over their harmful environmental effects. Most PCBs were sold for use as dielectric fluids (insulating liquids) in electrical transformers and capacitors. Although PCBs are no longer being made in this country for this use, many electrical transformers and capacitors once filled with PCBs are still in service. Today, a Federal law prohibits the manufacture of PCBs, controls the phase-out of their existing uses, and sees to their safe disposal. information bulletin discusses the facts and the measures being taken by the Environmental Protection Agency (EPA) to safeguard public health and the environment from the hazardous effects of PCBs.

WHAT ARE PCBS?

PCBs are part of the extensive family of organic chemicals known as chlorinated hydrocarbons. Virtually all PCBs in existence today have been synthetically manufactured. PCBs have a heavy oil-like consistency, high boiling points, a high degree of chemical stability, low flammability, low electrical conductivity, and weigh about 10-12 pounds per gallon.

HOW ARE PCBS USED?

As stated before, PCBs were primarily used in transformers and capacitors as dielectric fluid. Much of the PCBs previously marketed in the United States are still in service in these applications. PCBs manufactured as dielectric fluids were sold under several trade names, including: Aroclor, Askarel, Pyroclor, Sanotherm, and Pyranol. Askarel is also a generic name used for non-flammable dielectric fluids containing PCBs.

PCBs have also been used in a variety of other applications such as: heat transfer and hydraulic fluids; dye carriers in carbonless copy paper; plasticizers in paints, adhesives, and caulking compounds; and fillers in investment casting wax.

PCBs are currently being inadvertently produced as byproducts during the manufacture of certain organic chemicals. PCBs may be formed when chlorine, carbon, elevated temperatures or catalysts are present together in a process stream.

WHY ARE PCBS HARMFUL TO OUR HEALTH AND ENVIRONMENT?

PCBs are harmful because once they are released into the environment, they tend not to break apart into other substances. Instead, PCBs persist and take several decades to slowly decompose. By remaining in the environment, they can be taken up and stored in the fatty tissues of all organisms from which they are slowly released into the blood stream. Therefore, due to storage in fat, the concentration of PCBs in the body tissues can increase with time even though PCB exposure levels may be very low. This process is called bioaccumulation. Further, as PCBs accumulate in the tissues of simple organisms, and as they are consumed by progressively higher organisms, the concentration increases. This process is called biomagnification, the cumulative quantity of PCBs consumed by man, who is at the end of the food chain, can be quite significant.

These two factors, bioaccumulation in organisms and biomagnification in the food chain, are especially significant because PCBs are harmful to health at low levels. Specifically, PCBs have been shown to cause chronic (long-term) toxic effects in some species of animals and aquatic species. Well-documented tests on laboratory animals show that various levels of PCBs can cause reproductive effects, gastric disorders, skin lesions, and cancerous tumors. PCBs may, even at low concentrations in water, reduce the supply of commercial fish, either through direct adverse effects on their development and juvenile growth or through reduction in populations of aquatic animals and plants which are the food sources for the fish.

PCBs may enter the body through the lungs, the gastrointestinal tract, and the skin. After absorption, PCBs are circulated in the blood throughout the body and are stored in fatty tissues and a variety of organs, including the liver, kidneys, lungs, adrenal glands, brain, heart, and skin.

PCBs pervade the environment. Measurable amounts of PCBs have been found in soils, water, fish, milk, and human tissue. PCBs have been found in fish from the Hudson River and the Great Lakes, in fish meal used as feed (as a result of a leaking heat exchanger), and in animal feed (as a result of a leaking transformer).

WHAT IS EPA DOING ABOUT PCBS?

In October 1976, Congress passed the Toxic Substances Control Act (TSCA) and, in section 6(e) of that law, specifically directed EPA to regulate PCBs. It should be noted that this was the only chemical substance specifically named in TSCA, because Congress believed that the chemical and toxicological properties of PCBs posed a significant risk to public health and the environment.

Section 6(e) of TSCA requires the proper disposal of PCBs, and prohibits their manufacture, processing, distribution in commerce, and use. EPA has issued regulations implementing these provisions. The following is a summary to date of these actions.

On May 31, 1979, EPA issued regulations effective July 1, 1979, to implement the Congressional ban on the manufacture, processing, distribution in commerce and use of PCBs, and to control the disposal of PCBs. EPA was sued by the Environmental Defense Fund (EDF) over certain provisions of these rules, which were subsequently remanded to EPA for additional rulemaking by the U.S. Court of Appeals for the District of Columbia Circuit. Specifically, EPA needed to issue additional rulemaking dealing with the use of PCBs in electrical equipment, and rulemaking on the manufacture, processing, distribution in commerce and use of low concentrations of PCBs (PCBs in concentrations below 50 parts per million (ppm)).

On August 25, 1982, a final rule amendment covering the use of PCBs in electrical equipment was issued. The major provisions of the rule allow the continued use of electrical equipment containing PCBs according to certain use and servicing restrictions. The use of transformers and electromagnets containing at least 500 ppm PCBs requires inspection and maintenance for leaks of dielectric fluid. However, these uses are prohibited after October 1, 1985 wherever the equipment also poses an exposure risk to food or feed. The use of capacitors containing three or more pounds of PCB dielectric fluid is prohibited after October 1, 1988, except when located in restricted access electrical substations or restricted access indoor installations, where they may be kept in service for the remainder of their useful lives.

Although PCBs are no longer being manufactured for use as a dielectric fluid, certain chemical manufacturing processes result in the inadvertent production of PCBs as impurities or byproducts. Another final rule amendment to the May 1979 regulations, released on October 21, 1982, covers those situations where PCBs are produced inadvertently but either are not released (closed processes), or are released only to wastes which are then properly disposed of (controlled waste processes). The rule sets up a voluntary exclusion for certain types of extremely low exposure manufacturing processes. major provision of this rule provides an exclusion from further regulation to those processes that do not release PCBs into the air, water, or products in concentrations above levels that can be practically measured, as stated in the rule. Manufacturers who qualify, and desire exclusion, must keep records and notify EPA of their excluded processes.

One provision of the comprehensive 1979 PCB rule was an authorization permitting the use of PCBs in railroad transformers until January 1, 1982. On January 3, 1983, the May 1979 rule was amended by EPA to extend the use authorization with certain

restrictions. The performance deadlines were changed to allow affected railroad organizations to service their transformers consistent with commuter transit needs. These extensions were particularly important because it had not been determined until October 1981 that an adequate PCB substitute for railroad transformers had been sufficiently tested. The amended schedule runs from July 1, 1983 through July 1, 1986.

In addition, under the January 3, 1983 amendment, railroad transformers containing PCBs in concentrations equal to or less than 1,000 ppm may continue to be used for their remaining useful life.

WHERE CAN MORE INFORMATION ON PCBS BE OBTAINED?

To get additional copies of this PCB Fact Sheet or copies of the FEDERAL REGISTER notices highlighted in this publication call, toll-free, 800-424-9065 (in Washington, D.C., dial 554-1404). At e=PCB Question & Anomae Teor.

The information is provided by the TSCA Industry Assistance Office which is mandated by section 26 of TSCA to provide nonfinancial technical-compliance assistance to industry and others on TSCA's implementation actions.

To date, over 40 FEDERAL REGISTER notices, dealing with the control of PCBs under TSCA, have been published by EPA. However, the most important of these notices are listed here, and will be sent to you by calling the toll-free number mentioned above.

- o May 31, 1979 PCB Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions Final Rule (includes Disposal Requirements).
- o May 1, 1980 Expiration of the Open Border Policy for PCB Disposal.
- o August 25, 1982 PCB Use in Electrical Equipment Rule.
- o October 21, 1982 ... PCB Use in Closed and Controlled Waste Manufacturing Processes.
- o January 3, 1983 PCB Amendment to Use Authorization for PCB Railroad Transformers.

Chronological Events in the Control of PCBs

1929	First commercial production Early production as coolant formers and capacitors.	/dielectric for trans-
1929-1975	Monsanto, only important U.S. U.S. Production Export In Service (currently) Landfills and Dumps Soil, water, air, river sediments Destroyed	producer—1.4 billion lbs. 1.25 billion lbs. 150 million lbs. 750 million lbs. 290 million lbs. 150 million lbs. 55 million lbs. (4.4%)
1930	Toxicity tests indicated no e	ffects.
1930-1960	Expansion of open-ended appli broad spectrum of products.	-
1937	Toxic effects noted in occupa and threshold limit values	tionally exposed workers imposed at manufacturing sites.
1968	"Yusho" incident in Japan, ov eating contaminated rice oi	
1970	Monsanto stopped production a	t its Anniston, Alabama plant.
1976	Congress enacted Toxic Substa October 11, 1976. Section 6(e) addresses PC	
1977	Monsanto stops all production Illinois.	closed plant in Sauget,
1978	EPA began issuing Federal PCB	rules (Title 40 Part 761).

PCB TRANSFORMERS AND CAPACITORS LISTED BY TRADE NAME

The following are the trade names used by various manufacturers for the dielectric fluids in PCB transformers and capacitors. This information can be found on the transformer or capacitor manufacturer's nameplate.

TRADE NAME

Thermino1**

MANUFACTURER

ALC R. C. Uptegraff Unknown Apirolio Monsanto Aroclor P. R. Mallory & Co. Aroclor B Asbestol American Corp. Queensboro Transformer and Machinery Corp. ASK Askarel* ESCO Mfg. Co. Ferranti-Packard Ltd. Askare1* Hevi-Duty Electric Askarel* Askarel* Niagara Transformer Corp. Askare1* Queensboro Transformer and Machinery Corp. Askarel* Research-Cottrell Askarel* Universal Mfg. Corp. Capacitor 21 Monsanto Chlorextol Allis Chalmers Chlorinol Sprague Electric Co. Bayer (Germany) Clophen Clorphen Jard Corp. Clorinol Sprague Electric Co. Sangamo Electric Diaclor Caffaro (Italy) DK Cornell Dubilier Dykano1 EEC-18 Niagara Transformer Corp. EEC-18 Power Zone Transformer McGraw Edison Elemex Eucarel Electrical Utilities Corp. Caffaro (Italy) Fenclor Hyvol Aerovox Caffaro (Italy) Inclor Westinghouse Inerteen Kanegafuchi Chemical Industry Kanechlor Kanegafuchi Chemical Industry Kennechlor Mitsubishi (Japan) Kennechlor General Electric⊬ Magvar Monsanto MCS 1489 Unknown Nepolin Non-Flammable Liquid ITE Circuit Breaker Co. No-Flamol Wagner Prodelec (France) Phenoclor Monsanto Pydrau1*** Prodelec (France) Pyralene General Electric ✓ Pyrano1 Monsanto Pyroclor Kuhlman Electric Saf-T-Kuhl Mitsubishi (Japan) Santotherm Monsanto Santotherm FR Santovac 1 and 2 Monsanto

Monsanto

^{*}Generic name used for non-flammable insulating liquids in transformers and capacitors.

^{**}Various products used as heat transfer fluids, such as Therminol FR-O, were manufactured under this name. Note: Therminol 66 is a non-PCB fluid.

^{***}Various products used as hydraulic fluid, such as Pydraul A-200, were manufactured under this name.

PCB TRANSFORMERS AND CAPACITORS LISTED BY MANUFACTURER

The following are the trade names used by various manufacturers for the dielectric fluids in PCB transformers and capacitors. This information can be found on the transformer or capacitor manufacturer's nameplate.

MANUFACTURER TRADE NAME

Aerovox Hyvol
Allis-Chalmers Chlorextol
American Corp. Asbestol

Axel Electronics

Bayer Clophen

Caffaro Dk, Fenclor, Inclor

Capacitor Specialists

Chemko

Cornell Dubilier Dykanol

Dings Co.

Electrical Utilities Corp. Eucarel

Electro Engineering Works Electromagnetic Filter Co.

Envirotech Buell

Eriez Magnets Pyranol
ESCO Mfg. Co. Askarel*
Ferranti-Packard Ltd. Askarel*

General Electric Pyranol, Magvar

Geneva Industries H. K. Porter

Helena Corp.

Hevi-Duty Electric Askarel*

ITE Circuit Breaker Non-Flammable Liquid

Jard Corp. Clorphen

Kanegafuchi Kennechlor, Kanechlor

Kuhlman Electric Saf-T-Kuhl McGraw Edison Elemex

Maloney Electric ¹.
Mitsubishi Kennechlor, Santotherm

Monsanto Aroclor, Capacitor 21, MCS 1489,

Santotherm FR, Pyroclor, Therminol**

ALC

Pydraul***, Santovac 1 and 2

Myron Zucker

Niagara Transformer Corp. Askarel*, EEC-18, N-3

P. R. Mallory & Co. Aroclor B
Power Zone Transformer EEC-18

Prodelec Phenoclor, Pyralene

Queensboro Transformer and Machinery Corp. Askarel*, ASK

R. C. Uptegraff

R. F. Interonics Reliance Electric Co.

Research-Cottrell Askarel*
Sangamo Electric Diaclor

Sovo1

Sprague Electric Co. Chlorinol

Standard Transformer Corp.

Stens Magnetics

Tobe Deutschmann Labs.
Universal Mfg. Corp.
Askarel*

Van Tran Electric

Versatex

Wagner Electric No-Flamol Westinghouse Electric Inerteen York Electronics

Unknown Nepolin, Apirolio

****See reverse side

USES OF PCB CLASSIFIED TO GRADE OF AROCLOR

USES	AROCLOR	1221	1232	1016	1242	1248	1254	1260	1262	1268
CAPACITORS										
TRANSFORMERS										
VACUUM PUMPS										
GAS COMPRESSORS										
HYDRAULIC FLUID										
PLASTICIZER IN SYNTHETIC RESINS										
ADHESIVES										
PLASTICIZER IN RUBBERS										
HEAT TRANSFER										
WAX EXTENDERS										
DEDUSTING AGENTS										
PESTICIDE EXTENDE INKS, CUTTING OIL	1									
CARBONLESS COPY PAPER										
%CL		20.5 21.5	31.5	41	42	48	54	60	62.5	68

SOURCE: "The Chemistry of PCBs", Hutzinger et. al., 1974

^{**}Applications are in black

DISPOSAL COMPANIES* (Except Landfills)

COMPANY	ADDRESS	PHONE		
Incinerator				
Energy Systems Inc. (ENSCO)	1015 S. Louisiana Street Little Rock, AR 72202	(501) 375-8444 Charles Robertson		
	Facility Location: El Dorado, Arkansas			
General Electric Company	100 Woodlawn Avenue Pittsfield, MA 01201	(413) 494-3774 Benjamin Pratt		
Pyrotech Systems (ENSCO) (Mobile)	P.O. Box K White Bluff, TN 37187	(615) 383-1691 John Lanier		
Rollins Environmental Services (N.J.) Inc.	Marketing and Services P.O. Box 221 Bridgeport, NJ 08014	(609) 467-3105 Brian Cooper		
(Eastern States including Michigan)	Facility Location: Deer Park, Texas			
SCA Chemical Services, Inc.	11700 S. Stoney Island Chicago, IL 60617	(312) 646-5700 Banks Clark		
Vulcanus	Chem Waste Mgt. Inc. 3003 Butterfield Road Oak Brook, IL 60521	(312) 654-8800		
Chemical				
Acurex	485 Clyde Avenue Mountain View, CA 94042	(415) 964-3200		
Dowzer Electric	P.O. Box 829 Mt. Vernon, IL 62864	(618) 242-0190 Tom Feeney		
General Electric	1 River Road Schenectady, NY 12345	(518) 385-3134		
PCB Destruction	304 N. Baltimore Kansas City, MO 64116	(816) 474-1661		
PCB Inc.	2100 Wyandotte Kansas City, MO 64108	(816) 221-3660		
РРМ	10 Central Avenue Kansas City, KS	(913) 621-4206		
Rose Chemical	2459 Charlotte Street Kansas City, MO 64108	(816) 471-7227		
Sunohio Inc.	1700 Gateway Blvd., S.E. Canton, OH 44707	(216) 452-0837		

COMMERCIAL LANDFILLS APPROVED FOR PCB DISPOSAL

Section 6(e) requires EPA to control the manufacturing, processing, distribution in commerce and use of polychlorinated biphenyls (PCBs). Under the PCB rule, disposal of many PCBs, as defined in the rule, is prohibited, except at EPA approved facilities. Liquid PCBs in concentrations above 500 ppm may not be landfilled. The landfill information listed below was recently supplied to EPA by the named companies. EPA does not accept responsibility for the accuracy of the information. For the latest information on these facilities, call the EPA regional contacts given below.

.Drained transformers

STATE	CORPORATE INFORMATION	EPA CONTACT	& containers Contaminated soil, dirt, rags and other debris Dredge soil and munici- pal sludges Contaminated asphalt	Liquid PCBs 50-500 ppm
Alabama	(Site Location) Chemical Waste Mgmt. Alabama Inc. Box 55 Emelle, AL 35459 (205) 652-9531	Ralph Jennings (404) 257-3864	x	x
	(Sales Office) Chemical Waste Mgmt. Marietta, GA 30061 Box 3065 (404) 952-0444 ATTN: Al McCoy			
California	(Site Location) Casmalia Resources Casma NTU Rd. Casmalia, CA (805) 937-8449	Raymond Seid (415) 974-8389	х	
	(Site mailing address) Box E, Casmalia, CA 93429			
	(Corporate Headquarters) Casmalía Resources 559 San Ysidro Rd.) Santa Barbara, CA 93108 (805) 969-5897 ATTN: Jim McBride			
	(Site Location) Chemical Waste Mgmt., Inc. Box 157, Kettleman City, CA 93239 (209) 386-9711 (Sales Office) Box 1104 Coalinga, CA-93210 (209) 386-9711 ATTN: Craig McKenzie/ Mark Langowski		X	
Idaho	Envirosafe Services, Inc. of Idaho Box 936, Mt. Home, ID 83647 (208) 587-8434 ATTN: Dave Ralscon	Roger Fuentes (206) 442-1254	х	х ~
Mevada	(Site Locarion) U.S. Ecology Inc. Box 578 Beatty, NV 89003 (702) 553-2203 ATTN: Steve Carpenter	Raymond Sold (415) 974-8389	х	
	(Corporate Headquarters) U.S. Ecology Inc. 9200 Shelhyville Road Louisville, KY 40222 (502) 426-7160/300-626-5317 ATTN: Jackie Dickenson		·	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region V

· 0476:

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sususct: Interim PCB Cleanup Procedures

FROM:

Milt Clark M Health Effects Specialist

TO:

Karl Bremer
Toxic Substances Coordinator

The Toxic Materials Branch had to deal with a number of PCB cleanup cases following spills and the rupture or leaking of PCB capacitors. In order to gather information on acceptable levels of PCBs following cleanup on October 26, I talked with Mr. Ed Burroughs of NIOSH who is heading the PCB cleanup at Binghamton, New York. At the present time no conclusions have been reached as to what PCB levels are acceptable to protect human health following decontamination, although efforts in this area are being conducted. Any level is dependent upon a number of factors including the following: (1) method utilized for taking wipe samples, (2) adequate control samples, (3) degree of human contact, (4) absorption, (5) all concentrations, (6) exposure from other sources, and (7) nisk level or safety factor desired. Needless to say, this is not a simple, straightforward process.

A small number of background samples for PCBs have been taken by NIGSH. Background levels for PCBs have generally fallen in the 0.01 µg to 0.1 µg/100 cm² range, although some values as high as 0.5 µg/100 cm² have been found. The concentrations of PCBs found are dependent upon the mathod of collecting the wipe samples. Wipe samples collected following major capacitor rupture incidents indicate that with good cleanup practices residual levels of 10 µg/100 cm² can be achieved at about 50 times background levels (Mr. Ed Burroughs, NIOSH).

Based upon the above information, Mr. Burroughs and I discussed the reasonableness of using an interim method for PCB cleanup practices in order to protect human health. From our conversation I would recommend the following until NIOSH establishes a policy: -

- (1) Limited Contact Areas (i.e., Indoor Industrial Settings):

 Cleanup of 2Cos should be conducted down to 100 times
 background but not exceeding 50 µg/100 cm². Cleanup down
 to 10 µg/100 cm² would be preferable. Control samples as
 well as post cleanup samples would be required. Air sampling
 following cleanup should also be a mandatory requirement to
 ensure that the OSHA TLV value for 2CB of 1 µg/m² is not
 exceeded if unprotected individuals will be present or working
 in post cleanup areas (NIOSH Criceria Document For 2CBs, 1977).
- (2) High Contact Areas (i.e., Including Industrial Settings, Food, Feed Schools):
 Cleanup should be required down to background levels. Post-cleanup samples and air sampling would also be included. Any

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MICHIGAN DEPARTMENT OF PUBLIC HEALTH DIVISION OF OCCUPATIONAL HEALTH

OCCUPATIONAL HEALTH GUIDE D

PCB - HANDLING AND DISPOSAL

(Polychlorinated Biphenyls)



BACKGROUND & PROPERTIES - PCB stands for Polychlorinated biphenyls and the term is used to designate a group of organic compounds which theoretically can exceed 200 in number. PCB's have been commercially produced and sold since 1929 in Europe, Japan, and the U.S. They are generally colorless liquids, have low volatility and a high degree of thermal and chemical stability, are non-flammable and have excellent electrical insulating properties. PCB's have been found as a contaminant throughout the world in the soil, water and many forms of animal life, including man, entering the environment through industrial discharges, spills and ineffective incineration. Once in the environment, PCB's are very stable resisting oxidation, hydrolysis and other chemical reactions which might downgrade their toxicity. This stability plus the preference of PCB's to deposit in fatty tissue, can result in relatively high concentrations of PCB in many species.

PCB's toxic effects on man are not thoroughly understood but these materials are recognized as a human health hazard by ingestion, inhalation and prolonged skin contact. Chloracne and liver injury are among the first noticed effects. In 1968, 1,000 Japanese accidentally consumed from 0.5 to 2 grams of PCB through contaminated food resulting in eye discharge, skin and nail pigmentation, abdominal pain, weakness and itching. Laboratory research has indicated that some cancer related diseases can be induced in rats through very high exposures to PCB's. Current limits for employee exposure plus material handling controls, if fully implemented, are considered adequate for the protection of employees involved with the permitted uses and disposal of PCB materials.

INDUSTRIAL APPLICATIONS - The properties of PCB's have favored them for a variety of uses in the past. Current laws have banned the use of PCB's in any but totally enclosed systems and the manufacture and distribution is prohibited after May, 1979. No PCB's are produced in the U.S. and only a limited amount is imported for dielectric/cooling fluids for transformers and capacitors. Past applications of PCB materials include the following, but now are very limited potential sources of exposure and contamination.

- Heat Transfer fluids
- Hydraulic fluids
- Cutting lubricants

- Die and mold lubricants
- Vacuum pump oil
- Investment casting wax
- Plasticizers: (added to plastics to alter characteristics) have been used in paints, lacquers, varnishes, textile coatings, adhesives, sealants, inks, copying paper, rubber products and fire retardants

EMPLOYEE EXPOSURE CONTROL AND PROTECTION GUIDELINES - Occupational Health standards (both federal and state) prescribe maximum allowable concentration (MAC) values for PCB exposure to workers as follows:

Chlorodiphenyl containing 42% chlorine 1.0 mg/m^3 $0.5 \, \text{mg/m}^3$ Chlorodiphenyl containing 54% chlorine

Values given are average airborne concentration in milligrams of PCB per cubic meter of air time-weighted over an eight-hour work period. Since PCB's can be absorbed through the skin, no direct skin contact should be allowed. Employers and employees should observe the following guidelines to prevent or minimize exposure to PCB's:

arkite-1,050, Marual

Occupational Health Guideline for Chlorodiphenyl (54% Chlorine)*

INTRODUCTION

This guideline is intended as a source of information for employees, employers, physicians, industrial hygienists, and other occupational health professionals who may have a need for such information. It does not attempt to present all data; rather, it presents pertinent information and data in summary form.

SUBSTANCE IDENTIFICATION

- Formula. C₁₂H₁Cl₆ (approximately)
- Synonyms: Polychlorinated biphenyl, PCB
- Appearance and odor: Pale yellow viscous liquid with a mild hydrocarbon odor.

PERMISSIBLE EXPOSURE LIMIT (PEL)

The current OSHA standard for chlorodiphenyl (54% chlorine) is 0.5 milligram of chlorodiphenyl (54% chlorine) per cubic meter of air (mg/m²) averaged over an eight-hour work shift. NIOSH has recommended that the permissible exposure limit for polychlorinated biphenyls be reduced to 1.0 microgram per cubic meter of air averaged over a work shift of up to 10 hours per day, 40 hours per week, and that chlorodiphenyl (54% chlorine) be regulated as an occupational carcinogen. The NIOSH Criteria Document for Polychlorinated Biphenyls should be consulted for more detailed information.

HEALTH HAZARD INFORMATION

· Routes of exposure

Chlorodiphenyl (54% chlorine) can affect the body if it is inhaled, if it comes in contact with the eyes or skin, or if it is swallowed. It may be absorbed through the skin Every effort should be made to prevent skin, eye, oral, or inhalation contact with this material

· Effects of overexposure

Chlorodiphenyl (54% chlorine) may cause irritation of the eyes, nose, and throat, and an acne-like skin rash. It

may also injure the liver, resulting in such effects as fatigue, dark urine, and yellow jaundice. Repeated skin contact with the liquid may cause skin irritation.

· Reporting signs and symptoms

A physician should be contacted if anyone develops any signs or symptoms and suspects that they are caused by exposure to chlorodiphenyl (54% chlorine). The production of liver tumors and adverse reproductive effects have been demonstrated in experimental animals following ingestion of polychlorinated biphenyls. The relevance to humans of some of these studies has not yet been established.

· Recommended medical surveillance

The following medical procedures should be made available to each employee who is exposed to chlorodiphenyl (54% chlorine) at potentially hazardous levels

1. Initial Medical Examination:

- —A complete history and physical examination. The purpose is to detect pre-existing conditions that might place the exposed employee at increased risk, and to establish a baseline for future health monitoring. Examination of the liver and skin should be stressed. Women in the work force should be advised of the potential adverse effects of chlorodiphenyl (54% chlorine) on the unborn child. Those who have borne children and work with chlorodiphenyl (54% chlorine) should be counseled concerning the advisability of nursing their offspring.
- —Liver function tests Chlorodiphenyl (54% chlorine) may cause liver damage. A profile of liver function should be obtained by utilizing a medically acceptable array of biochemical tests.
- —Skin disease Chlorodiphenyl (54% chlorine) is a defatting agent and can cause dermatitis on prolonged exposure Persons with pre-existing skin disorders may be more susceptible to the effects of this agent.
- 2. Periodic Medical Examination: The aforementioned medical examinations should be repeated on an annual basis

These recommendations reflect good industrial hygiene and medical surveillance practices and their implementation will assist in achieving an effective occupational health program. However, they may not be sufficient to achieve compliance with all requirements of CSHA regulations.

made for the removal of chlorodiphenyl (54% chlorine) from the clothing. If the clothing is to be laundered or otherwise cleaned to remove the chlorodiphenyl (54% chlorine), the person performing the operation should be informed of chlorodiphenyl's (54% chlorine) hazardous properties.

- Non-impervious clothing which becomes contaminated with liquid chlorodiphenyl (54% chlorine) should be removed promptly and not reworn until the chlorodiphenyl (54% chlorine) is removed from the clothing.
- Employees should be provided with and required to use splash-proof safety goggles where liquid chlorodiphenyl (54% chlorine) may contact the eyes.

SANITATION

- Skin that becomes contaminated with liquid chlorodiphenyl (54% chlorine) should be promptly washed or showered with soap or mild detergent and water to remove any chlorodiphenyl (54% chlorine).
- Eating and smoking should not be permitted in areas where liquid chlorodiphenyl (54% chlorine) is handled, processed, or stored.
- Employees who handle liquid chlorodiphenyl (54% chlorine) should wash their hands thoroughly with soap or mild detergent and water before eating, smoking, or using toilet facilities.
- Areas in which exposure to chlorodiphenyl (54% chlorine) may occur should be identified by signs or other appropriate means, and access to these areas should be limited to authorized persons.

COMMON OPERATIONS AND CONTROLS

The following list includes some common operations in which exposure to chlorodiphenyl (54% chlorine) may occur and control methods which may be effective in each case:

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Use as hightemperature transfer medium in chemical/ food processing vessels and drying ovens

Use as a dielectric in manufacture of transformers, capacitors, resistors, and other electrical apparatus

Controls

General dilution ventilation; local exhaust ventilation; personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

Operation

Application and formulation as plasticizer, flameretardant, and adhesive and weatherizer in spray surface coatings; manufacture and application of impregnants for cloth, paper, fiberboard, wood, and asbestos: manufacture and application of natural and synthetic waxes and polishes; manufacture and application of hot-melt and other adhesives

Use as non-flammable working fluid in vacuum pumps, hydraulic systems, and expansion systems

Use during application of high-pressure, temperature, and moisture lubricants

Use in compounding and processing of plastics for flame retardancy

Use in manufacture and application for use as pesticides and fungicides

Use as an intermediate or raw material in further organic synthesis

Use as sealer for gaskets of natural rubber and synthetics

Use as adhesive release on tapes and ink release on carboniess duplicating paper; as a pigment carrier in dyeing polyesters and paper

Controla

Process enclosure; general dilution ventilation; local exhaust ventilation; personal protective equipment

General dilution ventilation; local exhaust ventilation

Personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

Personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

Personal protective equipment

* SPECIAL NOTE

The International Agency for Research on Cancer (IARC) has evaluated the data on this chemical and has concluded that it causes cancer. See IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man, Volume 7, 1974, and Volume 18, 1978.

RESPIRATORY PROTECTION FOR CHLORODIPHENYL (54% CHLORINE)

Condition	Minimum Respiratory Protection* Required Above 0.5 mg/m³		
Vapor Concentration			
5 mg/m² or less	Any supplied-air respirator with a full facepiece, helmet, or hood.		
	Any self-contained breathing apparatus with a full facepiece.		
Greater than 5 mg/m³** or entry and escape from unknown concentrations	Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.		
	A combination respirator which includes a Type C supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure or continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.		
Fire Fighting	Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.		
Escape	Any gas mask providing protection against pesticides.		
	Any escape self-contained breathing apparatus.		

^{*}Only NIOSH-approved or MSHA-approved equipment should be used.

^{**}Use of supplied-air suits may be necessary to prevent skin contact while providing respiratory protection from airborne concentrations of chlorodiphenyl (54% chlorine); however, this equipment should be selected, used, and maintained under the immediate supervision of trained personnel. Where supplied-air suits are used above a concentration of 5 mg/m², an auxiliary self-contained breathing apparatus operated in positive pressure mode should also be worn.

CHM-59 35:0101

ENVIRONMENTAL PROTECTION AGENCY REGULATIONS FOR MANUFACTURING PROCESSING, DISTRIBUTION IN COMMERCE, AND USE PROHIBITIONS FOR POLY-CHLORINATED BIPHENYLS UNDER THE TOXIC SUBSTANCES CONTROL ACT (40 CFR 761; 43 FR 7150, February 17, 1978, Effective April 18, 1978; 43 FR 33918, August 2, 1978; 44 FR 31514, May 31, 1979; 44 FR 54296, September 19, 1979; 45 FR 20473, March 28, 1980; recodified at 47 FR 19526, May 6, 1982; 47 FR 37342, August 25, 1982; 47 FR 46980, October 21, 1982; 47 FR 55436, December 3, 1982; 48 FR 124, January 3, 1983; 48 FR 4467, February 1, 1983; 48 FR 5729, February 8, 1983; 48 FR 13181, March 30, 1983; 48 FR 15125, April 7, 1983)

Title 40—Protection of Environment

CHAPTER 1-ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER R-TOXIC SUBSTANCES CONTROL ACT

PART 761—POLYCHLORINATED BIPHENYLS (PCBs) MANUFACTURING, PROCESSING, DISTRIBUTION IN COMMERCE AND USE PROHIBITIONS

Subpart A — General Provisions

761 1 Applicability.

761.3 Definitions.

Subpart B - Manufacturing, Processing, Distribution in Commerce, and Use chemical substances or combination of subof PCBs and PCB Items

761.20 Prohibitions

761.30 Authorizations

Items

761.40 Marking requirements.

761.45 Marking formats

Subpart D — Storage and Disposal

761 60 Disposal requirements

761 65 Storage for Disposal.

761.70 Incineration

Chemical waste landfills. 761.75

761.79 Decontamination.

Subpart E - I [Reserved]

Subpart J — Records and Reports

761 180 Records and monitoring.

Authority: Section 6, 8, and 12, Toxic Substances Control Act, 15 U.S.C. 2605, 2607, and 2611

[Editor's Note: The EPA list of approved PCB disposal facilities appears at the end of this regulation.]

Subpart A - General

§761.1 Applicability.

- (a) This part establishes prohibitions of, and requirements for, the manufacture, processing, distribution in commerce, use, disposal, storage, and marking of PCBs and PCB Items
- (b) This part applies to all persons who manufacture, process, distribute in com- regulations

merce, use, or dispose of PCBs or PCB Items. Unless it is otherwise specifically provided, the terms PCB and PCBs are used in this rule to refer to any chemical substances and combinations of substances that contain 5 i ppm (on a dry weight basis) or greater of PCBs, as defined in §761.3(s), including any byproduct, intermediate or impurity manufactured at any point in a process. Any chemical substances and combinations of substances that contain less than 50 ppm PCBs because of any dilution, shall be included as PCB and PCBs unless otherwise specifically provided Substances that are regulated by this rule include, but are not limited to, dielectric fluids, contaminated solvents, oils, waste oils, heat transfer fluids, hydraulic fluids, paints, sludges, slurries, dredge spoils, soils, materials contaminated as a result of spills, and other stances, including impurities and byproducts

(c) Definitions of the terms used in these regulations are in Subpart A. The basic re-Subpart C - Marking of PCBs and PCB quirements applicable to disposal and marking of PCBs and PCB Items are set forth in Subpart D - Disposal of PCBs and PCB Items and in Subpart C - Marking of PCBs and PCB Items Prohibitions applicable to PCB activities are set forth in Subpart B — Manufacture, Processing, Distribution in Commerce, and Use of PCBs and PCB Items Subpart B also includes authorizations from the prohibitions. Subparts C and D set forth the specific requirements for disposal and marking of PCBs and PCB Items

(d) Section 15 of the Toxic Substances Control Act (TSCA) states that failure to comply with these regulations is unlawful Section 16 imposes liability for civil penalties upon any person who violates these regulations, and the Administrator can establish appropriate remedies for any violations subject to any limitations included in §16 of TSCA Section to also subjects a person to criminal prosecution for a violation which is knowing or willful. In addition, \$17 authorizes Federal district courts to enjoin activities prohibited by these regulations, compel the taking of actions required by these regulations, and issue orders to seize PCBs and PCB Items manufactured, processed or distributed in violation of these regulations

(e) These regulations do not preemp' other more stringent Federal statutes and

(f) Persons who manufacture, process. distribute in commerce, or use PCBs generated as byproducts, impurities or intermediates in closed and controlled waste manufacturing processes (as defined in § 761 3 (j); and (kk)) are exempt from the requirements of Subpart B To qualify for this exclusion. such processes must also fully comply with § 761 185 [47 FR 46980, Oct. 21, 1982, effective Nov.

22, 1982]

761.3 Definitions.

For the purpose of this part

(a) "Administrator" means the Administrator of the Environmental P-otection Agency, or any employee of the Agency to whom the Administrator may either herein or by order delegate his authority to carry out his functions, or any person who shall by operation of law be authorized to carry out such functions.

(b) "Agency" means the United States Environmental Protection Agency.

(c) "Byproduct means a chemical substance produced without separate commercial intent during the manufacturing or processing of another chemical substance(s) or mixture(s)

(d) "Capacitor" means a device for accumulating and holding a charge of electricity consisting of conducting surfaces separated by a dielectric Types of

capacitors are as follows:

- (1) "Small Capacitor" means a capacitor which contains less than 1 36 kg (3 lbs.) of dielectric fluid. The following assumptions may be used if the actual weight of the dielectric fluid is unknown. A capacitor whose total volume is less than 1,639 cubic centimeters (100 cubic inches) may be considered to contain less than 1.36 kg (3 lbs.) of dielectric fluid and a capacitor whose total volume is more than 3,278 cubic centimeters (200 cubic inches) must be considered to contain more than 1.36 kg (3 lbs.) of dielectric fluid. A capacitor whose volume is between 1,639 and 3,278 cubic centimeters may be considered to contain less than 1.36 kg (3 lbs.) of dielectric fluid the total weight of the capacitor is less than 4 08 kg (9 lbs) [47 FR 37342, Aug 25, 1982, effective Sept.
- 24, 1982] (2) "Large High Voltage Capacitor" means a capacitor which contains 1 36 kg (3 lbs) or more of dielectric fluid and which

[Sec 761 3(d)(2)]

(aa) "Person" means any natural or judicial person including any individual corporation partnership, or association, any State or political subdivision thereof, any interstate body, and any department, agen cy, or instrumentality of the Federal Gov ernment

(bb) "Process" means the preparation of a chemical substance or mixture, after its manufacture, for distribution in commerce

(1) In the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance or mixture, or

(2) As part of an article containing the chemical substance or mixture

(cc) "Sale for Purposes Other than Re sale" means sale of PCBs for purposes of disposal and for purposes of use, except where use involves sale for distribution in commerce PCB Equipment which is first leased for purposes of use any time before July 1, 1979, will be considered sold for purposes other than resale

(dd) "Significant Exposure" means any exposure of human beings or the environment to PCBs as measured or detected by any scientifically acceptable analytical

method

(ee) "Small Quantities for Research and Development" means any quantity of PCBs (1) that is originally packaged in one or more hermetically sealed containers of a volume of no more than five (5 0)milliliters, and (2) that is used only for purposes of scientific experimentation or analysis, or chemical research on, or analysis of, PCBs, but not for research or analysis for the development of a PCB product

(ff) "Storage for Disposal" means temporary storage of PCBs that have been

designated for disposal

(gg) "Transport Vehicle" means a motor vehicle or rail car used for the transporta tion of cargo by any mode Each cargo carrying body (e.g., trailer, railroad freight car) is a separate transport vehicle

(hh) "Totally Enclosed Ma.iner" means any manner that will ensure that any exposure of human beings or the environment to any concentration of PCBs will be insignificant, that is not measurable or detectable by any scien

tifically acceptable analytical method
(ii) "Waste Oil" means used products primarily derived from petroleum, which include but are not limited to, fuel oils motor oils, gear oils, cutting oils, transmis-

(II) "Closed manufacturing process' means a manufacturing process in which PCBs are generated but from which less than 10 micrograms per cubic meter from any resolvable gas chromatographic peak are contained in any release to air, less than 100 micrograms per liter from any resolvable gas chromatographic peak are contained in any release to water and less than 2 micrograms per gram from any resolvable gas chromatographic peak are contained in any product, or any process waste

[47 FR 46980, Oct 21, 1982, effective Nov 22, 19821

(kk) "Controlled waste manufacturing process" means a manufacturing process in which PCBs are generated but from which less than 10 micrograms per cubic meter from any resolvable gas chromatographic peak are contained in any release to air less than 100 micrograms per liter from any resolvable gas chromatographic peak are contained in any release to water; less than 2 micrograms per gram from any resolvable gas chromatographic peak are contained in any product, and the remainder of PCBs generated are incinerated in a qualified incinerator, landfilled in a landfill approved under the provisions of § 761 75, or stored for such incineration or landfilling in accordance with the requirements of § 761 C5(b)(1)

[47 FR 46980, Oct 21, 1982, effective

immediately)

(II) "Posing an Exposure Risk to Food or Feed" means being in any location where human food or animal feed products could be exposed to PCBs released from a PCB Item A PCB Item poses an exposure risk to food or feed if PCBs released in any way from the PCB Item have a potential path way to human food or animal feed EPA considers human food and animal feed to include items regulated by the U.S. Department of Agriculture or the Food and Drug Administration as human food or animal feed, this includes direct additives. Food or feed is excluded from this definition if it is used or stored in private homes [47 FR 37342, Aug 25, 1982, effective Sept 24, 1982 47 FR 54436, Dec 3, 1982,

effective immediately] (mm) "Manufacturing process' means all of a series of unit operations operating at a site, resulting in the

production of a product [47 FR 46980, Oct 21, 1982, effective Nov 22, 1982]

(nn) 'Qualified incinerator' means one of the following

[47 FR 46980, Oct 21, 1982 effective Nov 22, 1982, 48 FR 4467, Feb 1, 1983, effective immediately]

(1) An incinerator approved under the provisions of § 761 70 Any sion fluids, hydraulic fluids, and dielectric concentration of PCBs can be destroyed in an incinerator approved under § 761 70

> (2) A high efficiency boiler approved under the provisions of \$ 761 60(a)(3) Concentrations below 500 מו פ . ב . אענט ppm can be destroyed in a highofficiency boiler approved under \$ 761 60(a)(3)

(3) An incinerator approved under section 3005(c) of the Resource Conservation and Recovery Act (42 USC 6925(c)) (RCRA) Only PCBs in concentrations below 50 ppm can be destroyed in a RCRA approved incinerator. The manufacturer seeking to

qualify a process as a controlled waste process by disposing of wastes in a RCRA-approved incinerator must make a determination that the incinerator is capable of destroying less readily ourned compounds than the PCB homologs to be destroyed. The manufacturer may use the same guidance used by EPA in making such a determination when issuing an approval under section 3005(c) of RCRA. The manufacturer is also responsible for obtaining a reasonable assurance that the incinerator, when burning PCB wastes will be operated under conditions which have been shown to enable the incinerator to destroy the less readily burned compounds

Subpart B-Manufacturing, Processing, Distribution in Commerce, and Use of PCBs and PCB Items

§761.20 Prohibitions.

Except as authorized in §761 30, the activities listed in paragraphs (a) and (d) of this section are prohibited pursuant to section 6(e)(2) of TSCA. The requirements set torth in paragraphs (b) and (c) of this section concerning export and import of PCBs for purposes of disposal and PCB Items for purposes of disposal are established pursuant to section 6(e)(1) of TSCA Subject to any exemptions granted pursuant to section 6(e)(3)(B) of TSCA the activities listed in paragraphs (b) and (c) of this section are prohibited pursuant to section 6(e)(3)(A) of TSCA In addition the Administrator hereby finds, under the authority of section 12(a)(2) of TSCA, that the manufacture, processing, and distribution in commerce of PCBs and PCB Items for export from the United States presents an unreasonable risk of injury to health within the United States This finding is based upon the welldocumented human nealth and environmental hazard of PCB exposure, the high probability of human and environmental exposure to PCBs and PCB Items from manufacturing processing, or distribution activities the poter ial hazard of PCB exposure posed by the transportation of PCBs or PCB Items within the United States, and the evidence that contamination of the environment by PCBs is spread far beyond the areas where they are used. In addition, the Administrator hereby finds that any exposure of human beings or the environment to PCBs as measured or detected by any scientifically acceptable analytical method is a significant exposure, as defined in §761 3(dd) Section 761 3(hh) and TSCA section 6(e)(2)(C) define the term totally enclosed manner as "any manner which will ensure that any exposure of human beings or the environmen to a polvch'orinated biphenyl will be insign ficant Since any exposure to PCBs is found to be a significant exposure a totally enclosed manner is a manner that results in no exposure of humans of the environment to PCBs

- (D) The location of any leak(s)
- (E) An estimate of the amount of dielectric fluid released from any leak
- (F) The date of any cleanup, contain ment, repair or replacement
- (G) A description of any cleanup, containment, or repair performed
- (H) The results of any containment and daily inspection required for uncorrected active leaks
- (v) A reduced visual inspection frequency of at least once every 12 months applies to PCB Transformers that utilize either of the following risk reduction measures. These inspections may take place any time during the calendar year as long as there is a minimum of 180 days between inspections.
- (A) A PCB Transformer which has impervious, undrained, secondary containment capacity of at least 100 percent of the total dielectric fluid volume of all transformers so contained, or
- (B) A PCB Transformer which has been tested and found to contain less than 60,000 ppm PCBs (after three months of inservice use if the transformer has been serviced for purposes of reducing the PCB concentration)
- (vi) An increased visual inspection frequency of at least once every week applies to any PCB Transformer in use or stored for reuse which poses an exposure risk to food or feed. The user of a PCB Transformer posing an exposure risk to food or feed is responsible for the inspection recordkeeping, and maintenance requirements under this section until the user notifies the owner that the transformer may pose an exposure risk to food or feed. Following such notification, it is the owner's ultimate responsibility to determine whether the PCB

Transformer poses an exposure risk to food or feed

- (2) Servicing conditions (1) Transformers classified as PCB Contaminated Electrical Equipment (as defined in \$761-3(z)) may be serviced (including rebuilding) only with dielectric fluid containing less than 500 ppm PCB
- (ii) Any servicing (including rebuilding) of PCB Transformers (as defined in \$761 3(5)) that requires the removal of the transformer coil from the transformer casing is prohibited PCB Transformers may be serviced (including topping off) with dielectric fluid at any PCB concentration
- (iii) PCBs removed during any servicing activity must be captured and either reused as dielectric fluid or disposed of in accordance with the requirements of \$761.60 PCBs from PCB Transformers must not be mixed with or added to dielectric fluid from PCB Contaminated Electrical Equipment
- (iv) Regardless of its PCB concentration, dielectric fluids containing less than 500 ppm PCB that are mixed with fluids that contain 500 ppm or greater PCB inust not be used as dielectric fluid in any electrical equipment. The entire mixture of dielectric fluid must be considered to be greater than 500 ppm PCB and must be disposed of in an incinerator that meets the requirements in §761.70
- (v) A PCB Transformer may be converted to PCB Contaminated Electrical Equipment or to a non-PCB Transformer and a transformer that is classified as PCB Contaminated Electrical Equipment may be reclassified to a non PCB Transformer by draining refilling and or otherwise servicing the transformer. In order to reclassify, the transformer is dielectric fluid must contain less than 500 ppm PCB (for conversion to PCB Contaminated Electrical)

Equipment) or less than 50 ppm PCB (for conversion to a non PCB Transformer) after a minimum of three months of inservice use subsequent to the last servicing conducted for the purpose of reducing the PCB concentration in the transformer In service means that the transformer is used electrically under loaded conditions that raise the temperature of the dielectric fluid to at least 50° Centigrade. The Assistant Administrator may grant, without further rulemaking, approval for the use of alternative methods that simulate the loaded conditions of in service use. All PCBs removed from transformers for purposes of reducing PCB concentrations are subject to the disposal requirements of \$761.60

(vi) Any dielectric fluid containing 50 ppm or greater PCB used for servicing transformers must be stored in accordance with the storage for disposal requirements of \$761.65

(vii) Processing and distribution in commerce of PCBs for purposes of servicing transformers is permitted only for persons who are granted an exemption under TSCA 6(e)(3)(B)

(b) Use in and Servicing of Railroad Transformers PCBs may be used in transformers in railroad locomotives or railroad self-propelled cars ('railroad transformers'') and may be processed and distributed in commerce for purposes of servicing these transformers in a manner other than a totally enclosed manner subject to the following conditions

(1) Use Reservet ons [48 FR 124 Jan 3, 1983, effective Feb 2, 1983]

(1) After July 1 1983, the number of railroad transformers containing a PCB concentration greater than 60,000 ppm (6 0 percent on a dry weight basis) in use by any

[next page is 25 0105]

bonless copy paper containing PCBs may be used in a manner other than a totally enclosed manner indefinitely

(g) Pigments Diarylide and Phthalocyanin pigments that contain 50 ppm or greater PCB may be processed, distributed in commerce, and used in a manner other than a totally enclosed manner until January 1, 1982, except that after July 1, 1979, processing and distribution in commerce of diarvlide or phthalocvanin pigments that contain 50 ppm or greater PCB is permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B)

(h) Use in and servicing of electromag nets, switches and voltage regulators PCBs at any concentration may be used in electromagnets, switches (including sectionalizers and motor starters), and voltage regulators and may be used for purposes of servicing this equipment (including rebuilding) for the remainder of their useful lives subject to the following conditions

[47 FR 37342, Aug. 25, 1982, effective Sept

24, 1982]

- (1) Use conditions (1) After October 1, 1985, the use and storage for reuse of any electromagnet which poses an exposure risk to food or feed is prohibited if the electromagnet contains greater than 500 ppm PCBs.
- (11) A visual inspection of each electromagnet subject to paragraph (h)(1)(i) shall be performed at least once every week according to the conditions contained in §761 30(a)(1)(iii) and (iv)
- (2) Servicing conditions (1) Servicing (including rebuilding) any electromagnet, switch, or voltage regulator with a PCB concentration of 500 ppm or greater which requires the removal and rework of the internal components is prohibited

(11) Electromagnets, switches, and voltage regulators classified as PCB-Contaminated Llectrical Equipment (as defined in §761.3 (z)) may be serviced (including rebuilding) only with dielectric fluid containing less

than 500 ppm PCB

(iii) PCBs removed during any servicing activity must be captured and either reused as dielectric fluid or disposed of in accordance with the requirements of §761 60 PCBs from electromagnets switches, and voltage regulators with a PCB concentration of at least 500 ppm must not be mixed with or added to dielectric fluid from PCB-Contaminated Electrical Equipment

- (iv) Regardless of its PCB (concentration, dielectric fluids containing less than 500 ppm PCB) that are mixed with fluids that contain 500 ppm or greater PCB must not be used as dielectric fluid in any electrical equipment. The entire mixture of dielectric fluid must be considered to be greater than 500 ppm PCB and must be disposed of in an incinerator that meets the re quirements of §761 70
- (v) An electromagnet, switch or voltage regulator with a PCB concentration of at

(f) Use in Carponless Copy Paper Car-least 500 ppm may be converted to PCB Contaminated Electrical Equipment or to a non-PCB classification and PCB Contami nated Electrical Equipment may be reclassi fied to a non-PCB classification by drain ing, refilling and/or otherwise servicing the equipment. In order to be reclassified, the equipment's dielectric fluid must contain less than 500 ppm PCB (for conversion to PCB-Contaminated Electrical Equipment) or less than 50 ppm PCB (for conversion to a non PCB classification) after a minimum of three months of in-service use subsequent to the last servicing conducted for the purpose of reducing the PCB con centration in the equipment. In-service use means the equipment is used electrically under loaded conditions. The Assistant Ad ministrator may grant, without further rulemaking, approval for the use of alternative methods that simulate the loaded conditions of in-service use. All PCBs removed from this equipment for purposes of reducing PCB concentrations are subject to the disposal requirements of §761 60

(vi) Any dielectric fluid containing 50 ppm or greater PCB used for servicing electromagnets, switches, or voltage regulators must be stored in accordance with the stor age for disposal requirements of \$761.65

(vii) Processing and distribution in commerce of PCBs for purposes of servicing electromagnets, switches or voltage regula tors is permitted only for persons who are granted an exemption under TSCA 6(e)(3) (B)

(1) Use in Natural Gas Pipeline Com pressors PCBs may be used in natura gas pipeline compressors until May 1, 1980 in a manner other than a totally enclosed manner

(1) Small Quantities for Research and Development PCBs may be processed distributed in commerce and used in small quantities for research and development as defined in \$761 3(ee) in a manner other than a totally enclosed manner until July 1 1984, except that after July 1, 1979, pro cessing and distribution in commerce of PCBs in small quantities for research and development is permitted only for persons who have been granted an exemption under TSCA section 6(e)(3)(B)

(k) Microscopy Mounting Medium PCBs may be processed, distributed in commerce, and used as a mounting medium in microscopy in a manner other than a to tally enclosed manner until July 1, 1984 ex cept that after July 1, 1979, processing and distribution in commerce of PCBs for pu poses of use as a mounting medium in microscopy are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B)

(1) Use in capacitors PCBs at any concentration may be used in capacitors, subject to the following conditions [47 FR 37342, Aug 25, 1982, effective Sept

24, 19821

(1) Use conditions (1) After October 1,

1988 the use and storage for reuse of PCB Large High Voltage Capacitors and PCB Large Low Voltage Capacitors which pose an exposure risk to food or feed is prohibited

(ii) After October 1, 1988, the use of PCB Large High Voltage Capacitors and PCB Large Low Voltage Capacitors is prohibited unless the capacitor is used within a restricted-access electrical substation or in a contained and restricted-access indoor instaliation A restricted-access electrical substation is an outdoor, fenced or walled in facility that restricts public access and is used in the transmission or distribution of electric power. A contained and restrictedaccess indoor installation does not have public access and has an adequate roof, walls, and floor to contain any release of PCBs within the indoor location

(2) [Reserved]

(m) Use in and servicing of circuit breakers, rectosers and caple PCBs at any concentration may be used in circuit breakers, reclosers and cable and may be used for purposes of servicing this electrical equipment (including rebuilding) for the remainder of their useful lives, subject to the following conditions

[47 FR 37342, Aug 25 1982, effective Sept

24, 1982]

(1) Servicing conditions (1) Circuit breakers recioners, and cable may be serviced (including rebuilding) only with dielectric fluid containing less than 50 ppm **PCB**

(ii) Any circuit breaker, recloser or cable found to contain at least 50 ppm PCBs may be serviced only in accordance with the conditions contained in 40 CFR 761 30(h)(2)

(2) [Reserved]

Subpart C - Marking of PCBs and PCB Items

§761 40 Marking requirements

- (a) Each of the following items in exis ence on or after July 1, 1978 shall be marked as illustrated in Figure 1 in §761 45(a) The mark illustrated in Figure 1 is referred to as M_L throughout this sub-
 - (1) PCB Containers
- (2) PCB Transformers at the time of manufacture, at the time of distribution in com nerce if not already marked, and at the time of removal from use if not already marked [Marking of PCB-Contaminated Electrical Equipment is not required],

(3) PCB Large High Voltage Capacitors at the time of manufacture, at the time of dis'r bution in commerce if not alread' marked and at the time of removal from use if not already marked

(4) Equipment containing a PCB Trans former or a PCB Large High Voltage Ca pacitor at the time of manufacture, at the time of districution in commerce if not al ready marked and at the time of removal mark shall be at least 15-25 cm (6 inches) on each side. If the PCB Article or PCB Equipment is too small to accommodate this size the mark may be reduced in size proportionately down to a minimum of 5 cm (2 inches) on each side

(b) Small PCB Mark — M₅ Mark M₅ shall be as shown in Figure 2, letters and striping on a white or yellow background, and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB Article, PCB Equipment, or PCB Container The mark shall be a rectangle 2.5 by 5 cm (1 inch by 2 inches) If the PCB Article or PCB Equipment is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of 1 by 2 cm (4 by 8 inches)

Subpart D — Storage and Disposal

Note.—This Subpart does not require re moval of PCBs and PCB Items from ser vice and disposal earlier than would normally be the case. However, when PCBs and PCB Items are removed from service and disposed of, disposal must be under taken in accordance with these regulations PCBs (including soils and debris) and PCB Items which have been placed in a disposal site are considered to be 'in service' for purposes of the applicability of this Subpart. This Subpart does not require PCBs and PCB Items landfilled prior to February 17, 1978 to be removed for disposal However, if such PCBs or PCB Items are removed from the disposal site, they must be disposed of in accordance with this Subpart. Other Subparts are directed to the manufacture, processing, and distribution in commerce, and use of PCBs and may result in some cases in disposal at an earlier date than would otherwise occur

§761.60 Disposal requirements.

(a) PCBs (1) Except as provided in subparagraph (a)(2), (3), (4), and (5) of this section, PCBs must be disposed of in an incinerator which complies with §761 70.

(2) Mineral oil dielectric fluid from PCB-Contaminated Electrical Equipment con taining a PCB concentration of 50 ppm or greater, but less than 500 ppm, must be dis posed of in one of the following

[47 FR 37342 Aug 25, 1982, effective Sept 24, 1982]

(1) In an incinerator that complies with §761.70,

(11) In a chemical waste landfill that complies with §761.75 if information is provided to the owner or operator of the chemical waste landfill that shows that the mineral oil dielectric fluid does not exceed 500 ppm PCB and is not an ignitable waste as described in §761 75(b)(8)(iii),

(iii) In a high efficiency boiler provided that

(A) The boiler complies with the follow ing criteria

(1) The boiler is rated at a minimum of 50 million BTU hours

(2) If the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned,

(3) If the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is 100 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned,

(4) The mineral oil dielectric fluid does not comprise more than ten (10) percent (on a volume basis) of the total fuel feed rate,

(5) The mineral oil dielectric fluid is not fed into the boiler unless the boiler is operating at its normal operating temperature (this prohibits feeding these fluids during either start up or shut Jown operations),

(6) The owner or operator of the boiler

(1) Continuously monitors and records the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning mineral oil dielectric fluid, or

(11) It the boiler will burn less than 30,000 gallons of mineral oil dielectric fluid per vear, measures and records the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning mineral oil dielectric fluid

(7) The primary fuel teed rates, mineral oil dielectric fluid feed rates, and total quantities of both primary fuel and mineral oil dielectric fluid ted to the boiler are measured and recorded at regular intervals of no longer than 15 minutes while burning mineral oil dielectric fluid

(8) The carbon monoxide concentration and the excess oxygen percentage are checked at least once every hour that mineral oil dielectric fluid is burned. If either measurement falls below the levels specified in this rule, the flow of mineral oil dielectric fluid to the boiler shall be stopped

(B) Thirty days before any person burns mineral oil dielectric fluid in the boiler, the person gives written notice to the EPA Re gional Administrator for the EPA Region in which the boiler is located and that the notice contains the following information

(1) The name and address of the owner or operator of the boiler and the address of the boiler.

(2) The boiler rating in units of BTL/hour,

(3) The carbon monoxide concentration and the excess oxygen percentage in the stack of the boiler when it is operated in a manner similar to the manner in which it will be operated when mineral oil dielectric fluid is burned, and

(4) The type of equipment, apparatus and procedures to be used to control the feed of mineral oil dielectric fluid to the boiler and to monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack

(C) When burning mineral oil dielectric fluid the boiler must operate at a level of output no less than the output at which the measurements required under paragraph (a)(2)(iii)(B)(3) of this section were taken

(D) Any person burning mineral oil dielectric fluid in a boiler obtains the following information and retains the information for the years at the boiler location

(1) The data required to be collected under paragraph (a)(2)(A)(6) and (7) of this section, and

(2) The quantity of mineral oil dielectric fluid burned in the boiler each month,

(iv) In a facility that is approved in accordance with \$761 60(e). For the purpose of burning mineral oil dielectric fluid, an applicant under \$761 60(e) must show that his combustion process destroys PCBs as efficiently as does a high efficiency boiler, as defined in paragraph (b)(2)(iii) of this section, or §761 70 approved incinerator

(3) Liquids, other than mineral oil dielectric fluid, containing a PCB concentration of 50 ppm or greater, but less than 500

ppm, shall be disposed of

- (1) In an incinerator which complies with
- (ii) In a cnemical waste landfill which complies with §761-75 if information is provided to the owner or operator of the chemical waste landfill that shows that the waste ignitable waste as described in §761 75 (b)(5)(m)
- (iii) In a high efficiency boiler provided
- (A) The boiler complies with the follow ing criteria
- (1) The boiler is rated at a minimum of 50 million BTU /hour,
- (2) If the boiler uses natural gas or oil as the primary fuel the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned,
- (3) It the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is 100 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned,

(4) The waste does not comprise more than ten (10) percent (on a volume basis) of the total fuel feed rate.

- (5) The waste is not fed into the boiler unless the boiler is operating at its normal operating temperature (this prohibits feeding these fluids during either start up or shut dov n operations),
- (6) The owner or operator of the boiler must
- (1) Continuously monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack gas while buri ii a waste fluid or
- (11) It the poiler will burn less than 30 000 gallons of waste fluid per year, measure and record the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no

turniz shall be disposed of in accordance with either of the following

(A) Disposal in an incinerator which

complies with \$761.70 or

(B) until March 1 1981, disposal in a chemical waste landfill that complies with 8761 75

[45 FR 20473, March 28, 1980, effective im-

mediatelyl

- (v) Notwithstanding the restrictions im posed by paragraph (b)(2)(III)(B) or (b)(2)(iv)(B) of this section PCB capacitors may be disposed of in PCB chemical waste landfills that comply with §761 75 subsequent to March 1,1981 if the Assistant Administrator for Pesticides and Toxic Substances publishes a notice in the Federal Register declaring that those landfills are available for such disposal and explaining the reasons for the extension or reopening An extension or reopening for disposal of PCB capacitors that is granted under this subsection shall be subject to such terms and conditions as the Assistant Administrator may prescribe and shall be in effect for such period as the Assistant Admin istrator may prescribe. The Assistant Administrator may permit disposal of PCB ca pacitors in EPA approved chemical waste landfills after March 1, 1981, if in his opinion
- (1) Adequate incineration capability for PCB capacitors is not available, or
- (2) The incineration of PCB capacitors will significantly interfere with the incinera tion of liquid PCBs, or

(3) There is other good cause shown

As part of this evaluation the Assistant Administrator will consider the impact of his action on the incentives to construct or expand PCB incinerators

145 FR 20473, March 28, 1980, effective immediately]

- (vi) Prior to disposal in a §761.75 chemical waste landfill, all large PCB capacitors, and all small PCB capacitors described in paragraph (b)(2)(iv) of this section, shall be placed in one of the Depart ment of Transportation specification con tainers identified in §761 65(c)(6) or in containers that comply with 49 CFR 178 118 (specification 17H containers) Large PCB capacitors which are too big to fit inside one of these containers shall be placed in a container with strength and durability equivalent to the DOT specification containers. In all cases, interstitial space in the container shall be filled with sufficient absorbent material (such as sawdust or soil) to absorb any liquid PCBs remaining in the ca
- 145 FR 20473 March 28, 1980 effective im mediately]
- (3) PCB Hydraulic Machines PCB hv draulic machines such as die casting machines may be disposed of as municipal solia waste or salvage provided that the machines are drained of all free flowing li and the liquid is disposed of in accor dance with the provisions of paragraph (a) of this section. If the PCB liquid contains 10(x) ppm PCB or greater, than the hvdraulic machine must be flushed prior to

disposal with a solvent containing less than 50 ppm PCB (see transformer solvents at paragraph (b)(1)(i)(ii) of this section) and the solvent disposed of in accordance with paragraph (a) of this section

- (4) PCB Contaminated Llectrical Equip ment All PCB Contaminated Electrical Equipment except capacitors shall be dis posed of by draining all free flowing liquid from the electrical equipment and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained electrical equipment is not reg ulated by this rule Capacitors that contain between 50 and 500 ppm PCBs shall be dis posed of in an incinerator that complies with \$761 70 or in a chemical waste landfill that compnes with §761 75
- 147 FR 37342, Aug 25, 1982, effective Sept 24, 1982] (5) Other PCB Articles (1) PCB Articles
- with a PCB concentration of 500 ppm of greater must be disposed of [47 FR 37342, Aug 25, 1982, effective Sept 24 19821
- (A) In an incinerator that complies with §761 70, or
- (B) In a chemical waste landfill that complies with §761 75 provided that all freeflowing liquid PCBs have been thoroughly drained from any articles before the articles are placed in the chemical waste landfill and that the drained liquids are disposed of in an incinerator that complies with \$761.70

(ii) PCB Articles with a PCB concentra tion between 50 and 500 ppm must be dis posed of by draining all free flowing liquid from the article and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposel of the drained

article is not regulated by this rule

24, 19821

(6) Storage of PCB Articles Except for a PCB Article described in paragraph (b)(2) (ii) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section, any PCB Article shall be stored in accordance with §761 65 prior to disposal [47 FR 37342 Aug 25, 1982, effective Sept

(c) PCB Containers (1) Unless decon taminated in compliance with \$761.79 or as provided in (c)(2) of this section, a PCB Container shall be disposed of

(1) In an incinerator which complies with \$761.70 or

- (ii) In a chemical waste landfill that complies with §761.75, provided that if there are PCBs in a liquid state, the PCB Container shall first be drained and the PCB liquid disposed of in accordance with para graph (a) of this section
- (2) Any PCB Container used to contain only PCBs at a concentration less than 500 ppm shall be d sposed of as municipal solid wastes, provided that if the PCBs are in a liquid state the PCB Container shall first be drained and the PCB liquid shall be disposed of in accordance with paragraph (a) of this section
- (3) Prior to disposal a PCB container shall be stored in a facility which complies with \$761.65

(d) Spills (1) Spills, leaks and other uncontrolled discrarges of PCBs consultate the disposal of PCBs

[47 I K 37342 Aug 25, 1982 effective Sept 24, 19521

(2) PCBs resulting from the clean-up and removal of spills, leaks or other uncon trolled discharges, must be stored and disposed of in accordance with paragraph (a) of this section

147 FR 37342, Aug 25, 1982, effective Sept 24, 19821

- (3) These regulations do not exempt any person from any actions or hapility under other statutory authorities, including but not limited to the Clean Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response Compensation, and Liability Act of 1980
- [47 FR 37342, Aug 25, 1982, effective Sept 24, 1982]
- (e) Any person who is required to incinerate any PCBs and PCB Items under this subpart and who can demonstrate that an alternative method of destroying PCBs and PCB Items exists and that this alternative method can ach eve a level of performance equivalent to §761.70 incinerators or high efficiency bouers as provided in paragraph (a)(2)(iv) and (a)(3)(iv) of this section, may submit a written request to either the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances for an evempt on from the incineration requirements of \$761.70 or §761 60 Requests for approval or alternate methods that will be operated in more than one region must be submitted to the Assistant Administrator for Pest cides and Toxic Substances except for research and development involving less than 500 pounds of PCB mater al (see paragraph (1)(2)) Requests for approval of alternate methods that will be operated in only one region must be submitted to the appropriate Regional Administrator The applicant must show that his method of destroying PCBs will not present an unreasonable risk of injury to health or the environment. On the basis of such information and any available information, the Regional Administrator or Assistant Administrator for Pesticides and Toxic Substances may, in his discretion approve the use of the alternate method if he finds that the alternate disposal method provides PCB destruction equivalent to disposal in a \$761.70 incinerator or a \$761 60 nigh efficiency poiler and will not present an unreasonable risk of injury to health or the environment. Any approval must be stated in writing and may contain such conditions and provisions as the Regional Administrator or Ass stant Adminis trator for Pesticides and Toxic Substances deems appropriate. The person to whom such waiver is issued must comply with all limitations contained in such determina non

[48 FR 13181 March 30 1983 effective April 29 1953]

(f)(1) Each operator of a chemical waste landt Il incinerator or a frontive out cin eration approved under puragraph (2) of prepared for the temporary storige area in same relative strength and durability as the [48 FR 1318]. March 30, 1983, effective accordance with 40 CIR 112. In addition each container must bear a not ition that in dicties that the liquids in the drum do not exceed 500 ppm PCB

(2) Non-leaking and structurally undamaged PCB Large High Voltage Capacitors and PCB Contaminated Electrical Equipment that have not been drained of free flowing dielectric fluid may be stored on pallets next to a storage facility that meets the requirements of paragraph (b) of this section PCB Contaminated Electrical Equipment that has been drained of free flowing dielectric fluid is not subject to the storage provisions of §761.65 Storage under this subparagraph will be permitted only when the storage facility has immediately available unfilled storage space equal to 10 percent of the volume of capacitors and equipment stored outside the facility The capacitors and equipment temporarily stored outside the facility shall be checked for leaks weekly [47 FR 37342, Aug 25, 1982, effective Sept

24, 1982] (3) Any storage area subject to the requirements of paragraph (b) or subparagraph (c)(1) of this section shall be marked

as required in Subpart C \rightarrow \$761 40(a)(10) (4) No item of movable equipment that is used for handling PCBs and PCB Items in the storage facilities and that comes in direct contact with PCBs shall be removed from the storage facility area unless it has

blen decontaminated as specified in §761-79 (5) All PCB Articles and PCB Con tainers in storage shall be checked for leaks at least once every 30 days. Any leaking PCB Articles and PCB Containers and their contents shall be transferred immediately to properly marked non-leaking containers. Any spilled or leaked materials shall be immediately cleaned up, using sorbents or other adequate means, and the PCB Contaminated materials and residues shall be disposed of in accordance with §761 60(a)(4)

(6) Except as provided in subparagraph (7) below, any container used for the storage of liquid PCBs shall comply with the Shipping Container Specification of the Department of Transportation (DOT), 49 CFR 178 80 (Specification 5 container without removable head), 178 82 (Specification 5B container without removable head), 178 102 (Specification 6D overpack with Specification 2S (§178 35) or 2SL (§178 35a) polyethylene containers) or §178 116 (Specification 17E container) Any container used for the storage of nonliquid PCBs shall comply with the specifications of 49 CFR 178 80 Specification 5 container), 178 82 (Specification 5B con tainer) or 178 115 (Specification 17C con tainer) As an alternate, containers larger than those specified in DOT Specifications 5, 5B or 17C may be used for non liquid PCBs if the containers are designed and constructed in a manner tha will provide as much protection against leaking and exposure to the environment as the DOT

Specification containers and are of the

DOT Specification containers

(7) Storage containers for liquid PCBs can be larger than the containers specified in paragraph (c)(6) of this section provided

(1) The containers are designed, constructed, and operated in compliance with Occupitional Safety and Health Standards, 29 CIR 1910 106, Flammable and combus tible liquids Before using these containers for storing PCBs, the design of the contain ers must be reviewed to determine the effect on the structural safety of the containers that will result from placing liquids with the specific gravity of PCBs into the containers (see 29 CFR 1910 106(b)(i)(f))

(ii) The owners or operators of any facility using containers described in paragraph (c)(7)(1) of this section shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan as described in 40 CFR 112 In complying with 40 CFR 112, the owner or operator shall read "oil(s)" as "PCB(s) whenever it appears The exemptions for storage capacity, 40 CFR 112 1(d)(2), and the amendment of SPCC plans by the Regional Administrator, 40 CFR 112 4, shall not apply unless some fraction of the liquids stored in the container the incineration process shall be based on Clean Water Act

(8) PCB Articles and PCB Containers shall be dated on the article or container when they are placed in storage storage shall be managed so that the PCB Articles and PCB Containers can be located by the date they entered storage Storage containers provided in paragraph (c)(7) of this section shall have a record that includes for each batch of PCBs the quantity of the batch and date the batch was added to the container. The record shall also include the date quantity, and disposition of any baich of PCBs removed from the container

(9) Owners or operators of storage facilities shall establish and maintain records as provided in \$761 180

§761 70 Incineration

(a) Liquid PCBs An incinerator used for incinerating PCBs shall be approved by an EPA Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances pursuant to paragraph (d) of this section Requests for approval of in cinerators to be used in more than one region must be submitted to the Assistant Administrator for Pesticides and Toxic Substances, except for research and devel opment involving less than 500 pounds of PCB material (see section 761 60(1)(2)) Re quests for approval of incinerators to be used in only one region must be submitted to the appropriate Regional Administrator The incinerator shall meet all of the require ments specified in paragraph (a)(1) through (9) of this section unless a wave- from these requirements is obtained pursuant to paragraph (d)(5) of this section. In addition the incinerator shall meet any other re qu rements which may be prescribed pursu ant to paragraph (d)(4) of this section

April 29, 1983]

- (1) Combustion criteria shall be either of the following
- (i) Maintenance of the introduced ho uids for a 2 second dwell time at 1200° (±100 C) and 3 percent excess oxy gen in the stack gas or
- (ii) Main enance of the introduced liq uids for a 11/ second dwell time at 1600°C(±100°C) and 2 percent excess oxy gen in the stack gas
- (2) Combusi or efficiency shall be as least 99 9 percent computed as follows

Combustion efficiency = Cco_2 $Cco_2 + Cco \times 100$

CCO2 = Concentration of carbon dioxide Cco = Concentration of carbon monoxide

(3) The rate and quantity of PCBs which are fed to the combustion system shall be measured and recorded at regular intervals of no longer than 15 minutes

(4) The temperatures of the incineration process shall be continuously measured and recorded. The combustion temperature of are oils as defined by section 311 of the either direct (pyrometer) or indirect (wall thermocoupie pyrometer correlation) tem perature readings

(5) The flow of PCBs to the incinerator shall stop automatically whenever the combustion temperature drops below the tem peratures specified in subparagraph (1) of this paragraph

(6) Monitoring of stack emission prod ucts shall be conducted

(i) When an incinerator is first used for the disposal of PCBs under the provisions of this regulation

(ii) When an incinerator is first used for the disposal of PCBs after the incinerator has been modified in a manner which may affect the characteristics of the sack emis sion products and

(iii) At a minimum such monitoring shall be conducted for the following parameters (a) O (b) CO (c) CO2, (d) Oxides of Nitrogen (NO_x) , (e) Hydrochloric Acid (HCl) (f) Total Chlorinated Organic Content (RCI). (g) PCBs and (h) Total Particulate Matter

(7) At a minimum monitoring and recording of combustion products and in cineration operations shall be conducted for the following parameters whenever the incinerator is incinerating PCBs (i) O₂, (ii) CO, and (iii) CO. The monitoring for O. and CO shall be continuous. The monitor ing for CO, shall be periodic at a frequency specified by the Regional Administrator or Assistant Administrator for Pesticides and Toxic Substances

March 30, 1983, effective [48 FR 13181 April 29 1983]

(8) The flow of PCBs to the incinerator shall stop automatically when any one or more of the following conditions occur, un less a contingency pian is submitted by the incinerator owner or operator and approv ed by the Rigional Administrator or Assis

the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances may include in an approval any other requirements that the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances finds are necessary to ensure that operation of the incinerator does not present an unreasonable risk of injury to health or the environment from PCBs. Such requirements may include a fixed period of time for which the approval is valid.

[48 FR 13181, March 30, 1983, effective

April 29, 1983]

(5) Waivers An owner or operator of the incircrator may submit evidence to the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances that operation of the incinerator will not present an unreasonable risk of injury to health or the environment from who owns or operates an approved incin-PCBs, when one or more of the requirements of paragraphs (a) and/or (b) of this section are not met. On the basis of such evidence and any other available information, the Regional Administrator or the Assistant Administrator for Pesticides and find that any requirement of paragraphs (a) which states that the transferee will abide and (b) of this section is not necessary to by the transferor's EPA incinerator approtect against such a risk, and may waive proval. Within 30 days of receiving such the requirements in any approval for that notification and affidavit, EPA will issue incinerator. Any finding and waiver under an amended approval substituting the

this paragraph must be stated in writing and transferee's name for the transferor's included as part of the approval

April 29, 1983]

- (6) Persons Approved An approval will designate the persons who own and who are authorized to operate the incinerator, and will apply only to such persons, except as provided in paragraph (d)(8) of this section
- (7) Final Approval. Approval of an incinerator will be in writing and signed by the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances The approval will state all requirements applicable to the approved incinerator

[48 FR 13181, March 30, 1983, effective April 29, 19831

(8) Transfer of Property Any person erator must notify EPA at least 30 days before transferring ownership in the incinerator or the property it stands upon, or transferring the right to operate the incinerator The transferor must also submit to EPA, at least 30 days before such transfer, a Toxic Substances may in his/her discretion notarized affidavit signed by the transferee

name or EPA may require the transferee to [48 FR 13181, March 30, 1983, effective apply for a new incinerator approval In the latter casc ine transferee must abide by the transferor's EPA approval until EPA issues the new approval to the transferee

§761.75 Chemical waste landfills.

(a) General A chemical waste landfill used for the disposal of PCBs and PCB Items shall be approved by the Agency Regional Administrator pursuant to para graph (c) of this section. The landfill shall meet all of the requirements specified in paragraph (b) of this section, uness a waiver from these requirements is ob ained pursuant to paragraph (c)(4) of this section In addition, the landfill shall meet any other requirements that may be prescribed pursuant to paragraph (c)(3) of this section

(b) Technical Requirements Requirements for enemical waste landfills used for the disposal of PCBs and PCB Items are as

follows

- (1) Soils The landfill site shall be located in thick, relatively impermeable formations such as large-area clay pans. Where his is not possible, the soil shall have a high clay and silt content with the following param-
- (1) In-place soil thickness, 4 feet or compacted soil liner thickness, 3 feet,

(ii) Permeablility (cm/sec), equal to or less than 1x10.

(140 degrees F) as determined by the following method or an equivalent method Flash point of liquids shall be determined by a Pensky-Martens Closed Cup Tester, using the protocol specified in ASTM Standard D-93-80 or the Setaflash Closed Tester using the protocol specified in ASTM Standard D-3273-78

148 FR 5729, Feb 8, 1983, effective im-

mediatelyl

(iv) Records shall be maintained for all PCB disposal operations and shall include information on the PCB concentration in liquid wastes and the three dimensional burial coordinates for PCBs and PCB Items Additional records shall be developed and maintained as required in §761 180

(9) Supporting Facilities (1) A six foot woven mesh fence, wall, or similar device shall be placed around the site to prevent unautho zed persons and animals from

entering

(11) Roads shall be maintained to and within the site which are adequate to support the operation and ma ntenance of the site without causing safety or nuisance problems or hazardous conditions

(iii) The site shall be operated and maintained in a manner to prevent safety problems or hazardous conditions resulting from spilled liquids and windblown materi

als

- (c) Approval of Chemical Waste Land fills Prior to the disposal of any PCBs and PCB Items in a chemical waste landfill the owner or operator of the landfill shall receive written approval of the Agency Regional Administrator for the Region in which the landfill is located The approval shall be obtained in the following manner,
- (1) Initial Report The owner or operator shall submit to the Regional Administrator an initial report which contains

(i) The location of the landfill,

(ii) A detailed description of the landfill including general site plans and design drawings,

- (111) An engineering report describing the manner in which the landfill complies with the requirements for chemical waste land fills specified in paragraph (b) of this section,
- (iv) Sampling and monitoring equipment and facilities available,
 - (v) Expected waste volumes of PCBs,
- (vi) General description of waste materials other than PCBs that are expected to be disposed of in the landfill,

(vii) Landfill operations plan as required

in paragraph (b) of this section, (viii) Any local, State, or Federal permits

or approvals, and (1x) Any schedules or plans for complying with the approval requirements of these regulations

(2) Other Information In addition to the information contained in the report de scribed in supparagraph (1) of this para graph, the Regional Administrator may re-

quire the owner or operator to submit any other information that the Regional Ad ministrator finds to be reasonably neces sary to determine whether a chemical waste landfill should be approved. Such other in formation shall be restricted to the types of information required in paragraphs (c)(1)(i) through (ix) of this paragraph

(3) Contents of Approval (1) Except as provided in subparagraph (4) of this para graph the Regional Administrator may not approve a chemical waste landfill for the disposal of PCBs and PCB Items, unless he finds that the landfill meets all of the re quirements of paragraph (b) of this Section

(ii) In addition to the requirements of paragraph (b) of this section the Regional Administrator may include in an approval any other requirements or provisions that the Regional Administrator finds are neces sary to ensure that operation of the chemical waste landfill does not present an unreasonable risk of injury to health or the environment from PCBs Such provisions may include a fixed period of time for which approval is valid

The approval may also include a stipula tion that the operator of the chemical waste landfill report to the Regional Administra tor any instance when PCBs are detectable during monitoring activities conducted pursuant to paragraph (b)(6) of this section

- (4) Waivers An owner or operator of a chemical waste landfill may submit evi dence to the Regional Administrator that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs when one or more of the requirements of paragraph (b) of this section are not met. On the basis of such evidence and any other available information, the Regional Administrator may in his discretion find that one or more of the requirements of paragraph (b) of this section is not necessary to protect against such a risk and may waive the requirements in any approval for that landfill Any finding and waiver under this paragraph will be stated in writing and included as part of the approval
- (5) Persons Approved Any approval will designate the persons who own and who are authorized to operate the chemical waste landfill and will apply only to such per sons except as provided by paragraph (c)(7) of this section

(6) Final Approval Approval of a chem ical waste landfill will be in writing and will be signed by the Regional Administrator The approval will state all requirements applicable to the approved landfill

(7) Transfer of Property Any person who owns or operates an approved chem ical waste landfill must notify EPA at least 30 days before transferring ownership in the property or transferring the right to conduct the chemical waste landfill operation. The transferor must also submit to EPA at least 30 days before such transfer a notarized affidavit signed by the trans feree which states that the transferee will abide by the transferor's EPA chemical in the annual document

waste landfill approval. Within 30 days of receiving such notification and affidavit, EPA will issue an amended approval sub suturing the transferee's name for the transferor's name, or EPA may require the transfered to apply for a new chemical waste landfill approval. In the latter case, the transferee must abide by the transferor's EPA approval until EPA issues the new approval to the transferee

§761 79 Decontamination.

- (a) Any PCB Container to be decontaminated shall be decontaminated by flushing the internal surfaces of the container three times with a solvent containing less than 50 ppm PCB. The solupility of PCBs in the solvent must be five percent or more by weight Each rinse shall use a volume of the normal diluent equal to approximately ten (10) percent of the PCB Container capacity. The solvent may be reused for decontamination until it contains 50 ppm PCB The solvent shall then be disposed of as a PCB in accordance with §761 60(a) Non liquid PCBs resulting from the decontamination procedures shall be disposed of in accordance with the provisions of §761 60(a)(4)
- (b) Movable equipment used in storage areas shall be decontaminated by swabbing surfaces that have contacted PCBs with a solven, meeting the criteria of paragraph (a) of this section

Note-Precautionary measures should be taken to ensure that the solvent meets safety and health standards as required by applicable Fed eral regulations

Subpart J-Records and Reports §761.180 Records and Monitoring

(a) PCBs and PCB Items in service or projected for disposal Beginning July 2, 1978, each owner or operator of a facility using or storing at one time at least 45 kilograms (99 4 pounds) of PCBs contained in PCB Container(s) or one or more PCB Transformers, or 50 or more PCB Large High or Low Voltage Capacitors shall develop and maintain records on the disposition of PCBs and PCB Items. These records shall form the basis of an annual document prepared for each facility by July 1 covering the previous calendar year Owners or operators with one or more faclities that use or store PCBs and PCB liems in the quantities described above may maintain the records and documents at one of the facilities that is normally occupied for 8 hours a day, provided the identity of this facility is available at each facility using or storing PCBs and PCB Items. The rec ords and documents shall be maintained for at least tive years after the facility chases us ing or storing PCBs and PCB Items in the prescribed quantities. The following in formation for each facility shall be included

local government agency and that pertain to the storage or disposal of PCBs and PCB ltems at the facility

- (2) All documents, correspondence, and data that have been provided by the owner or operator of the facility to any State or local government agency and that pertain to the storage or disposal of PCBs and PCB ltems at the facility
- (3) Any applications and related correspondence sent by the owner or operator of the facility to any local, State, or Federal authorities in regard to waste water discharge permits, solid waste permits, building permits, or other permits or authorizations such as those required by §761 70(d) and §761 75(c)
- § 761.185 Certification program and retention of special records by persons generating PCBs in closed manufacturing processes and controlled waste manufacturing processes.

[47 FR 46980, Oct 21, 1982, effective Nov 22, 1982]

- (a) In addition to meeting the basic requirements of § 761 1(f) PCB-generating manufacturing processes shall be considered "closed manufacturing processes" or "controlled waste manufacturing processes" (and thus be excluded from the TSCA section 6(e) ban on manufacture), only if the owner to perator of the manufacturing facility
- (1) Performs either a theoretical analysis of PCB levels in releases or conducts actual sampling of PCB levels in releases
- (2) Determines that the disposal facility is qual fied for the disposal of controlled wastes under § 761 3(nn) (for controlled waste processes only)
- (3) Maintains (for a period of 3 years after a process ceases operations or for 7 years, whichever is shorter) records containing the following information on the processes
- (i) Theoretical analysis (A) The reaction or reactions believed to be producing the PCBs, the levels of PCBs generated and the levels of PCBs released
- (B) The basis for all estimations of PCB concentrations
- (C) The name and qualifications of the person or persons performing the theoretical analysis
- (11) Actual monitoring (A) The method of analysis
- (B) The results of the analysis including data from the Quality Assurance Plan
- (C) The name of the analyst or analysts
 - (D) The date and time of the analysis

- (iii) Qualifications of the disposal facility (A) The type of disposal facility
 - (B) The name of the disposal facility
- (C) The location of the disposal facility
- (D) If the disposal facility is a RCRAapproved incinerator, the basis for the determination that the incinerator qualifies for the destruction of the PCB wastes to be destroyed
- (b) The data collected, and the analysis performed under paragraph (a) of this section must support the following certification if the processes are to be excluded under the closed manufacturing process and controlled waste manufacturing process exclusion Persons desiring exclusion of a PCB-generating process under the closed and controlled waste process exclusion shall certify that
- (1) An analysis of the manufacturing process for PCB levels and releases (either theoretical or through actual monitoring for PCBs) has been completed

(2) The analysis of the manufacturing process is on record at the facility

- (3) The concentration of PCBs in air emissions is below 10 micrograms per cubic meter per resolvable gas chromatographic peak in water effluents below 100 micrograms per liter per resolvable gas chromatographic peak and in products below 2 micrograms per gram per resolvable gas chromatographic peak
 - (4) Either
- (1) The concentration of PCBs in process wastes is below 2 micrograms per gram resolvable gas chromatographic peak
- (11) All process wastes are either incinerated in a qualified incinerator (see § 761 3(nn)) landfilled in a landfill approved under § 761 75, or stored for such incineration or landfilling in accordance with the requirements of § 761 65(b)(1)
- (c) The certification must be signed by a responsible corporate officer. This certification must be filed at each facility in which a closed or controlled waste process is operating for a period of three years after a process ceases operation or for seven years, whichever is shorter, and must be made available to EPA upon request. For the purpose of this section, a responsible corporate officer means.
- (1) A president secretary, treasurer, or vice president of the corporation in charge of a principal business function or any other person who performs

similar policy or decision making functions for the corporation

- (2) The manager of one or more manufacturing production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25,000,000 (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures
- (d) This certification process must be repeated whenever process conditions are significantly modified to make the previous certification no longer valid Significant modifications include changing disposal mechanisms or facilities for the disposal of controlled wastes.
- (e) Any person signing a document under paragraph (b) (1) through (4) of this section shall also make the following certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qual fied personnel properly gather and evaluate information. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information is, to the best of my knowledge and belief true, accurate and complete. I am aware that here are significant penalties for falsifying information, including the possibility of fines and imprisonment for knowing violations.

S gnature ————

- (f) Manufacturers operating closed and controlled waste manufacturing processes shall transmit a letter to EPA notifying EPA of
- (1) The number, the type and the location of the closed and controlled waste manufacturing processes
- (2) Whether the determinations that the processes qualify for exclusion are based on theoretical assessments or on actual monitoring of PCB levels in releases
- (3) The type the name, and the location of the waste disposal facility, if the process is a controlled waste manufacturing process

be prohibited by section 6(e) of TSCA. In addition, this rule will allow the use of PCBs in certain hydraulic and heat transfer system, and in the compressors and in the condensate of natural gas pipelines. Therefore, this rule will reduce the overall costs and economic impact of section 6(e) of TSCA.

This rule excludes certain manufacturing processes from statutory requirements to file annual petitions for exemption under section 6(e)(3)(B) of TSCA. EPA has estimated in the regulatory impact analysis for this rule that resulting cost savings would range from \$155 million to \$1.6 billion. In addition, EPA is authorizing: (1) The use of PCBs in hydraulic and heat transfer fluid at concentrations of less than 50 ppm for the remaining useful lives of. these systems, and (2) the use of PCBs incompressors and in the condensate of natural gas pipelines at concentrations of less than 50 ppm.

Although this rule is not a major rule. EPA has prepared to the extent possible, a Regulatory Impact Analysis using the guidance in the Executive Order. This rule was submitted to the Office of Management and Budget (OMB) prior to publication, as required by the Executive Order.

X. Regulatory Flexibility Act

Under section 605(b) of the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Administrator may cerofy that a rule will not, if promulgated have a significant impact on a substantial number of small entities and, therefore, does not require a regulatory flexibility analysis.

This rule excludes certain manufacturing processes from statutory requirements to file annual petitions for exemption under section 6(a)(3)(B) of TSCA. In addition, the rule will allow the indefinite use of PCBs in hydraulic and heat transfer fluid with concentration levels of less than 50 ppm, and in the compressors and condensate of natural gas picelines at concentrations of less than 50 ppm.

For those persons who would qualify under the conditions of this rule, the effect will be the avoidance of costs associated with section 6(e) of TSCA, and EPA regulations at 40 CFR Part 781. Since EPA expects this rule to have no negative economic effect to any business entity. I certify that this rule will not have a significant economic impact on a substantial number of small entities.

XI. Paperwork Reduction Act

The Paperwork Reduction Act of 1980 (PRA), 44 U.S.C. 3501 et seg., authorizes the Director of the Office of

Management and Budget (OMB) to review certain information collection requests by Federal agencies. EPA has determined that the recordkeeping, reporting, and certification requirements of this proposed rule constitute a "collection of information," as defined in 44 U.S.C. 3502(4). The information collection requirements in this rule (summarized in Unit II of this preamble) have been submitted to the Office of Management and Budget (OMB) under section 3504(b) of the PRA. OMB has assigned the control number 2070–0008 to this final rule.

List of Subjects in 40 CFR Part 761

Hazardous materials, Labeling,
Polychlorinated biphenyls,
Recordkeeping and reporting
requirements, Environmental protection.
(Sec. 6, Pub. L. 94–469, 90 Stat. 2020 (15 U.S.C. 2605)

Dated: June 27, 1964, Alvin L. Alm, Acting Administrator.

PART 761--{AMENDED]

Therefore, 40 CFR Part 761 is amended as follows:

1_In § 761.1, paragraphs (b) and (f) are revised to read as follows:

§ 761.1 Applicability.

(b) This part applies to all persons who manufacture, process, distribute in commerce, use, or dispose of PCBs or PCB Items. Substances that are regulated by this rule include, but are not limited to, dielectric fluids. contaminated solvents, oils, waste oils, heat transfer fluids, hydraulic fluids, paints, sludges, slurries, dredge spoils, soils, materials contaminated as a result of spills, and other chemical substances or combination of substances, including impurities and byproducts and any byproduct, intermediate or impurity manufactured at any point in a process What of the provisions of this part apply to PCBs only if PCBs are present in concentrations above a specified level. For example, Subpart D applies generally to materials at concentrations of 50 parts per million (ppm) and above. Also certain provisions of Subpart B apply to PCBs inadvertently generated in manufacturing processes at concentrations specified in the definition of "PCB" under § 761.3. No provision specifying a PCB concentration may be avoided as a result of any dilution, unless otherwise specifically provided.

- (f) Unless and until superseded by a mew more stringer tiregulations issued under all'A cottorities, or any permits or any pretreatment requirements issued by EPA, a state or local government that affect release of PCBs to any particular medium:
- (1) Persons who inadvertently manufacture or import PCBs generated as unintentional impurities in excluded manufacturing processes, as defined in § 761.3, are exempt from the requirements of Subpart B of this part, provided that such persons comply with Subpart I of this Part, as applicable.
- (2) Persons who process, distribute in commerce, or use products containing PCBs generated in excluded manufacturing processes defined in § 761.3 are exempt from the requirements of Subpart B provided that such persons comply with Subpart J of this part, as applicable.
- (3) Persons who process, distribute in commerce, or use products containing recycled PCBs defined in § 781.3, are exempt from the requirements of Subpart B of this part, provided that such persons comply with Subpart J one this part, as applicable.
- 2. In § 761.3, the definitions of "closed manufacturing process" and "controlled waste manufacturing process" are removed the definitions of "excluded manufacturing process" and "recycled PCBs" are added, and the definitions of "PCB" and "PCB Item" are revised to read as follows:

\$7613 Definitions.

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"Closed manufacturing process" [Removed].

'Controlled waste mamufacturing process' [Removed].

"Excluded manufacturing process in white countries of PCBs as determined in eccordance with the definition of inadvertently generated PCBs, calculated as defined, and from which releases to products, air, and water mastice the requirements of (1) through (5) of this definition, or the importation of products containing PCBs as unintentional impurities, which products meet the requirements of (1) and (2) of this definition.

(1) The concentration of inadvertently generated PCBs in products leaving any manufacturing site or imported into the United States must have an annual average of less than 25 ppm, with a 50 ppm maximum.

- (2) The concentration of inadvertently generated PCBs in the components of detergent bars leaving the manufacturing site or imported into the United States must be less than 5 ppm.
- (3) The release of inadvertently generated PCBs at the point at which emissions are vented to ambient air must be less than 10 ppm
- (4) The amount of inadvertently generated PCBs added to water discharged from a manufacturing site must be less than 100 micrograms per resolvable gas chromatographic peak per liter of water discharged.
- (5) Disposal of any other process wastes above concentrations of 50 ppm PCB must be in accordance with Subpart D of this part.

"PCB" and "PCBa" means any chemical substance that is limited to the > biphenyl molecule that has been chlorinated to varying degrees or any -combination of substances which. contains such substance. Refer to § 781 1(b) for applicable concentrations of PCBs. PCB and PCBs as contained in PCB items are defined in § 781.3. For any purposes under this Part, = _ _ inadvertently generated non-Aroclor PCBs are defined as the total PCBs calculated following division of the quantity of monochlorinated biphenyls by 50 and dichlorinated biphenyls by 5. * * * *

"PCB Item" is defined as any PCB Article, PCB Article Container, PCB Container, or PCB Equipment that deliberately or unintentionally contains or has a part of it any PCB or PCBs

"Recycled PCBs" are defined as those intentionally manufactured PCBs which appear in the processing of paper products or asphalt roofing materials as PCB-contaminated raw materials and which meet the requirements of (1) through (5) of this definition

- (1) The concentration of Aroclor PCBs in paper products leaving any manufacturing site or imported into the United States must have an annual for use within the United States or for average of less than 25 ppm with a 50 are export from the United States without ppm maximum.
- (2) There are no detectable concentrations of Aroclor PCBs in asphalt roofing materials
- (3) The release of Aroclor PCEs at the point at which emissions are vented to ambient air must be less than 10 ppm
- (4) The amount of Aroclor PCBs added to water discharged from a processing site must at all times be less than 3 micrograms per liter (µg/l) for total Aroclors (roughly 3 parts per billion (3 ppb))

- (5) Disposal of any other process wastes above concentrations of 50 ppm PCB must be in accordance with Subpart D of this part
- 3 In § 761 20 the fourth sentence of the introductory text paragraphs (a) (b)(1) and (b)(2), the introductory text of paragraph (c) and paragraphs (c)(1) and (c)(2) are revised, and paragraph (c)(4) is added to read as follows

§ 761 20 Prohibitions.

- ** In addition, the Administrator hereby finds, under the authority of section 12(a)(2) of TSCA, that the manufacture processing, and distribution in commerce for export from the United States of PCHs at concentrations of 50 ppm or greater and of PCB Items with PCB concentrations of 50 ppm or greater presents an unreasonable risk of injury to health within the United States.
- (a) No person may use any PCB, or any PCB Item regardless of concentration in any manner other than in a totally enclosed manner within the United States unless authorized under § 761.30, except that an authorization is not required to use those PCBs or PCB Items resulting from an excluded manufacturing process or recycled PCBs defined in § 761 3, provided all applicable conditions of § 761 1(f) are met

 (b) * * *
- (1) No person may manufacture PCBs for use within the United States or manufacture PCBs for export from the United States without an exemption except that an exemption is not required for PCBs manufactured in an excluded manufacturing process as defined in § 761 3 provided that all applicable conditions of § 761 1(f) are met.
- (2) PCBs at concernations less than 50 ppm may be imported or exported for purposes of disposal
- dismoste in commerce any PCB or any PCB Item regardless of concentration for user within the United States or for export from the United States without an exemption, except that an exemption is not required to process or distribute in commerce PCBs or PCB Items resulting from an excluded manufacturing process as defined in § 761.3 or to process or distribute in commerce recycled PCBs as defined in § 761.3 provided that all applicable conditions of § 761.1(f) are met
- (1) PCBs at concentrations of 50 ppm or greater or PCB Items with PCB concentrations of 50 ppm or greater sold before July 1 1979 for purposes other

- than results may be distributed in commerce on you to ally enclosed may not after that care
- (2) PCBs at concentrations of 50 ppm or greater or PCB Items with PCB concentrations of 50 ppm or greater may be processed and distributed in commerce in compliance with the requirements of this Part for purposes of disposal in accordance with the requirements of § 761.60
- (4) PCBs at concentrations of less than 50 ppm, or PCB Items, with concentrations of less than 50 ppm, may be processed and distributed in commerce for purposes of disposal.
- 4 In § 781 30, paragraphs (d), (e), and (i) are revised to read as follows:

\$76130 Authorizations.

- (d) Use in heat transfer systems. After July 1, 1984, intentionally manufactured PCBs may be used in heat transfer systems in a manner other than a totally enclosed manner at a concentration level of less than 50 ppm provided that the requirements of paragraphs (d) (1) through (7) of this section are met
- (1) Each person who owns a heat transfer system that ever contained PCBs at concentrations above 50 ppm must test for the concentration of PCBs in the heat transfer fluid of such a system no later than November 1, 1979, and at least annually thereafter. All test sampling must be performed at least three months after the most recent fluid refiling. When a test shows that the PCB concentration is less than 50 ppm, testing under this paragraph is no longer required.
- (2) Within six months of a test performed under paragraph (d)(1) of this ser ion that indicates that a system's fillid contains 50 ppm or greater PCB (0.005% on a dry weight basis) the system must be drained at the FCBs and the miled with fluid containing less than 50 ppm PCB. Tupping-off with heat transfer fluids containing PCB concentrations of less than 50 ppm is permitted.
- (3) After November 1 1979 no heat transfer system that is used in the manufacture or processing of any food drug cosmetic or device as defined in section 201 of the Federal Food Drug and Cosmetic Act may contain transfer fluid with 50 ppm or greater PCB (0.005% on a line weight basis)
- (4) Addition of fluids containing PCB concentrations greater than 50 ppm is prohibited
- (a) Data obtained as a result of paragraph (1)(1) of this section must be

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retained for five years after the heat transfer system reaches 50 ppm PCB.

(5) Each person who owns a heat transfer system that contains PCBs must provide workers with gloves made of viton elastomer to protect workers from dermal exposure to PCBs.

(7) All persons who maintain a heat transfer system must wear viton elastomer gloves while doing maintenance work on that system.

- (e) Use in hydraulic systems. After July 1, 1984, intentionally manufactured PCBs may be used in hydraulic systems in a manner other than a totally enclosed manner at a concentration level of less than 50 ppm provided that the requirements in paragraphs (e) (1) through (7) of this section are met.
- (1) Each person who owns a hydraulic system that ever contained PCBs at concentrations above 50 ppm most test ' for the concentration of PCBs in the hydraulic fluid of each system no later than November 1, 1979, and at least annually thereafter. All test sampling must be performed at least three months after the most recent fluid refilling. When a test shows that the PCB concentration is less than 50 ppm, testing under this paragraph is no longer required.
- (2) Within six months of a test under paragraph (e)(1) of this section that indicates that a system's fluid contains 50 ppm or greater PCB to 005% on a dry weight basis), the system must be drained of the PCBs and refilled with fluid containing less than 50 ppm PCB. Topping-off with hydraulic fluids containing PCB concentrations less than 50 ppm to reduce PCB concentrations is permitted.

(3) Addition of PCBs at concentrations of greater than 50 ppm is prohibited.

(4) Hydraulic fluid may be drained from a hydraulic system and filtered, distilled, or otherwise serviced in order to reduce the PCB concentration below 50 ppm.

(5) Data obtained as a result of aragraph (e)(1) of this section must be retained for five years after the hydraulic system reaches 50 ppm.

- (6) Each person who owns a hydraulic system that contains PCPs must provide gloves made of viton elastomer to protect workers from dermal exposure to PCBs.
- (7) All persons who maintain a hydraulic system that contains PCBs must wear viton elastomer gloves while doing maintenance work on that system. .
- (1) Use in compressors and in the liquid of natural gas pipelines. PCBs may be used indefinitely in the compressors and in the liquids of

natural gas pipelines at a concentration level of less than 50 ppm provided that they are marked in accordance with § 761.45(a).

5. In § 761.60, paragraphs (a)(1), the introductory text of (a)(4) and (a)(5). (a)(6), (b)(3), the introductory text of (b)(5), (b)(6), the introductory text of (c)(1), (c)(3), and (d)(1) are revised to read as follows:

§ 761.60 Disposal requirements.

- (a) PCBs. (1) Except as provided in paragraphs (a) (2), (3), (4), and (5) of this section, PCBs at concentrations of 50 ppm or greater must be disposed of in an incinerator which complies with _ § 761.70c.
- (4) Any non-liquid PCBs at concentrations of 50 ppm or greater is: the form of contaminated seil, rage, or other debris shall be dispused of:
- (5) All dredged materials and numicipal sewage treatment studges that ppm or greater and PCB Items with PCE: contain PCBs at concentrations of 59 ppm or greater shall be disposed of:
- (6) When storage is desired prior to disposal, PCBs at concentrations of 50 ppm or greater shall be stored in a facility which complies with § 781.85.

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- (3) PCB hydraulic machines. PCB hydraulic machines containing PCBs at concentrations of 50 ppm or greater such as die casting machines may be disposed of as municipal solid waste or salvage provided that the machines are drained of all free-flowing liquid and the limid is disposed of in accordance with the provisions of paragraph (a) of this section. If the PCB liquid contains 1000 ppm PCB or greater, then the hydraulic machine must be flushed prior to disposal with a rolvent containing less than 50 ppm PCB ander throstormer. entite (affi)(1)(1)(1) dans teque etne (co. section and the solvent disposed of in accordance with paragraph (a) of this section. ---
- (5) Other PCB Articles. PCB articles with concentrations at 50 ppm or greater must be disposed of:
- (6) Storage of PCB Articles. Except for a PCB Article described in paracraph. (b)(2)(ii) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section, any PCB Article, with PCB concentrations at 50 ppm or greater.

- in it ha storail in accordance with \$ / J. 65 prior to disposal.
- (c) PCB Containers. (1) Unless decontaminated in compliance with § 761.79 or as provided in paragraph (e)(L) of this section, a PCB container with PCB concentrations at 50 ppm or greater shall be disposed of:
- (3) Prior to disposal, a PCB container with PCB concentrations at 50 ppm or greater shall be stored in a facility which complies with § 761.65.

(d) Spills. (1) Spills and other uncontrolled discharges of PCBs at concentrations of 50 ppm or greater constitute the disposal of PCBs .-- 4

3. In § 761.65 the following introductory text is added at the heginning of the section:

§ 781.85 Slorage for disposal.

This section applies to the storage for T dispusal of PCBs at concentrations of 50concentrations of 50 ppm or greater. 35, and the second second

7. In § 761.70, the following introductory text is added to the ... beginning of the sections

§ 761.70 Incineration.

v •

This section applies to facilities used 🧐 to incinerate PCBs required to be inconerated by this part. ...

8 In § 761.75, the following introductory text is added to the beginning of the section:

§ 761 75 Chemical waste landfills.

This section applies to facilities used to dispose of PCBs in accordance with: træ part.

tn ₹ 781.130, the following treductory extis added to the tion on the sections

5 17; 130 Records and monitoring. ...

This section contains recordkeeping and reporting requirements that apply roself PCB3, PCB Items, and PCB storage and -a -disposal facilities that are subject to the equirements of the part. . .

10 In § 761.185, the section is revised and OMB control number 2070-0008 is ilder to read a follows:

§ 761.185 Certification program and retention or records by importers and persons generating PCBs in excluded manufacturing processes.

(1) In addition to meeting the basic Hum ements of § 781 1(f) and the

definition of Acluded manufacturing processes at § 761 3, manufacturers with processes inadvertently generating PCBs and importers of products containing inadvertently generated PCBs must report to EPA any excluded manufacturing process or imports for which the concentration of PCBs in products leaving the manufacturing site or imported is greater than 2 micrograms per gram (2 μ g/g, roughly 2 ppm) for any resolvable gas chromatographic peak Such reports must be filed by October 1, 1984 or, if no processes or imports require reports at the time, within 90 days of having processes or imports for which such reports are required.

(b) Manufacturers required to report by paragraph (a) of this section must transmit a letter notifying EPA of the number, the type, and the location of excluded manufacturing processes in which PCBs are generated when the PCB level in products leaving any manufacturing site is greater than 2 µg/g for any resolvable gas chromatographic peak. Importers required to report by paragraph (a) of this section must transmit a letter notifying EPA of the concentration of PCBs in imported products when the PCB concentration of products being imported is greater than $2 \mu g/g$ for any resolvable gas chromatographic peak. Persons must also certify the following

(1) Their compliance with all applicable requirements of § 761 1(f). including any applicable requirements for air and water releases and process

waste disposal

- (2) Whether aeterminations of compliance are pased on actual monitoring of PCB levels or on theoretical assessments.
- (3) That such determinations of compliance are being maintained
- (4) If the determination of compliance is based on a theoretical assessment, the letter must also notify EPA of the estimated PCB concentration levels generated and released.
- (c) Any person who reports pursuant to paragraph (a) of this section
- (1) Must have performed either a theoretical analysis or actual movitoring of PCB concentrations
- (2) Must maintain for a period of three years after ceasing process operations or importation or for seven years, whichever is shorter, records containing the following information
- (1) Theoretical analysis Manufacturers records must include the reaction or reactions believed to be generating PCBs the levels of PCBs generated and the levels of PCBs released Importers records must include the reaction or reactions

believed to be generating PCBs and the levels of PCBs generated the basis for all estimations of PCB concentrations and the name and qualifications of the person or persons performing the theoretical analysis or

- (ii) Actual manitoring (A) The method of analysis
- (B) The results of the analysis including data from the Quality Assurance Plan
 - (C) Description of the sample matrix
- (D) The name of the analyst or analysts
 - (E) The data and time of the analysis.

(F) Numbers for the lots from which

the samples are taken.

- (d) The certification required by paragraph (b) of this section must be signed by a responsible corporate officer This certification must be maintained by each facility or importer for a period of three years after ceasing process operation or importation, or for seven years, whichever is shorter, and must be made available to EPA upon request. For the purpose of this section, a responsible corporate officer means.
- (1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation
- (2) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25,000 000 (iii second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures
- (e) Any person signing a document under paragraph (d) of this section shall also make the following certification

I certify under penalty of law that this dicument and all attachments were prepare a under my direction or supervision in secondance with i system designed o ass in nal pear ted mers in material atter and evaluate information. Based on my aguity of the person or persons directly responsible for the gathering information. The information is to the best of my knowledge and belief true accurate and complete lain aware that there are significant penalties for falsifying information including the possibility of fines and imprisonment for knowing violations Dated -

Signature

(f) This report must be submitted to the U.S. Environmental Protection Agency Document Processing Center PO Box 2070 Rockville MD 20852 Attention PCB Notification This report must be submitted by October 1, 1984 or

- w hin 90 days of stilling up processes ore real garded or of PCBs
- (g) this certifical on process must be repeated whenever process conditions are significantly modified to make the previous certification no longer valid
- (Approved by the Cr of Minigement tumber 2070-0008} 1118 Let ander con
- 11 Section 761 187 and OMB control number 2070-0008 are added to read as follows

§761 187 Reporting importers and by persons generating PCBs in excluded manufacturing processes.

In addition to meeting the basic requirements of § 761 1(f) and the definition of excluded manufacturing process at § 761 3, PCB-generating manufacturing processes or importers of PCB-containing products shall be considered "excluded manufacturing processes' only when the following conditions are met

- (a) Data are reported to the EPA by the owner/operator or unporter conceining the total quantity of PCBs in product from excluded manufacturing processes leaving any manufacturing site in any calendar year when such quantity exceeds 0 0025 percent of that site's rated capacity for such manufacturing processes as or October 1 1984 or the total quant ty of PCbs imported in any calendar year when such quantity exceeds 0 0025 percent of the average total quantity of such product containing PCBs imported by such importer during the years 1978. 1979 1930, 1981 and 1982
- (b) Data are reported to the EPA by the owner/operator concerning the total quart to of inadvertently generated PCBs released to the air from excluded manufacturing processes at any muliutacturing site in any calandar year will an such quantity exceeds 10 pe ands

I'd are recorded to the EP by le c was / operator not emine ine total c antity of advertent' generated PCBs released to water from excluded m pulactum o processes from any manufacturing site in any calendar year when such quantity exceeds 10 pounds

- (d) These reports must be submitted to the US Fivironmental Protection Agency, Document Processing Center. PO Box 2070 Rockville Maryland 20852 Attention PCB Notification
- (A,) oved by the Office of "ir agament and Budget under control number 2070-0008)
- 12 Section 761 193 and OMB control rumber 2070- 408 are added to read as follows

§ 761.193 Maintenance of monitoring records by persons who import, manufacture, process, distribute in commerce, or use chemicals containing inadvertently generated PCBs.

- (a) Persons who import, manufacture, process, distribute in commerce, or use chemicals containing PCBs present as a result of inadvertent generation or recycling who perform any actual monitoring of PCB concentrations must maintain records of any such monitoring for a period of three years after a process ceases operation or importing ceases, or for seven years, whichever is shorter.
- (b) Monitoring records maintained pursuant to paragraph (a) of this section must contain:
 - (1) The method of analysis. ...
- (2) The results of the analysis, including data from the Quality τ . Assurance Plan.
 - (3) Description of the sample matrix.
- (4) The name of the analyst or analysts.
 - (5) The date and time of the analysis.
- (6) Numbers for the lots from which the samples are taken.

(Approved by the Office of Management and Budget under control number 2070–0008)
[FR Doc. 84–17903 Piled 7–8–84; 846 am]
BILLING CODE 8568–55–86

40 CFR Part 761

[OPTS-62031A; TSH FRL-2590-2]

Toxic Substances Control Act; Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions Use in Microscopy and Research and Development

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This final rule amends portions of an existing EPA rule concerning certain chemical substances known as polychlorinated biphenyls (PCBs). EPA is amending the PCB Ban rule, published in the Federal Register of May 3, 1979 (44 FR 31514) by: (1) Authorizing indefinitely the use of PCBs as mounting media in microscopy, (2) authorizing indefinitely the use of PCBs as immersion oils in low f'uorescence microscopy, (3) authorizing indefinitely the use of PCBs as optical liquids, and (4) authorizing indefinitely the use of small quantities of PCBs for use in research and development. EPA has determined that these uses of PCBs do not pose unreasonable risks to public health or the environment. EPA is not

authorizing the use of PCBs as calibration standards.

DATES: These amendments shall be considered promulgated for purpose of judicial review under section 19 of the Toxic Substances Control Act (TSCA) at 1:00 p.m. Eastern Daylight Time on July 24, 1984. These amendments shall be effective on July 1, 1984.

FOR FURTHER INFORMATION CONTACT: Edward A. Klein, Director, TSCA Assistance Office (TS-799), Office of Toxic Substances, Environmental Protection Agency, Rm. E-543, 401 M St., SW., Washington, D.C. 20460, Toll free: (800-424-9065), In Washington, D.C.: (554-1404), Outside the USA: (Operator-202-554-1404).

SUPPLEMENTARY HOPORIGATION:

L Background

Section 6(e) of the Toxic Substances Control Act (TSCA) generally prohibits the use of PCBs after January 1, 1978. The statute does, however, set forth two exceptions under which EPA may, by rule, allow a particular use of PCBs to continue. Under section 6(e)(2) of TSCA, EPA may allow PCBs to be used in a "totally enclosed manner." A "totally enclosed manner" is defined by TSCA to be "any manner which will ensure that any exposure of human beings or the environment to a polychlorinated biphenyl will be insignificant, as determined by the Administrator by rule." TSCA also allows EPA to authorize the use of PCBs in a manner other than a totally enclosed manner if the Agency finds that the use "will not present an unreasonable risk of injury to health or the environment'

EPA promulgated a rule at 40 CFR Part 761, which was published in the Federal Register of May 31, 1979 (44 FR 31514), to implement section 6(e) (2) and [3] of TSCA. EPA authorized, among other provisions of this rule, the nontotally enclosed use of PCBs for 11 activities. These authorizations were for the following activities: (1) Servicing of electrical transformers, (2) use in and servicing of railroad transformers, (3) use in and servicing of mining equipment, (4) use in carbonless copy paper, (5) use in pigments, (6) servicing of electromagnets, (7) use in natural gas pipeline compressors, (8) use in hydraulic systems, (9) use in heat transfer systems, (10) use in small quantities for research and development, and (11) use in microscopy mounting medium.

In the May 31, 1979 PCB Ban Rule. EPA also excluded from regulation materials containing PCBs in concentrations under 50 parts per million (ppm), and determined that the use of electrical transformers, capacitors, and electromagnets was "totally purposed."

The Environmental Defense Fund (EDF) petitioned the U.S. Court of Appeals for the District of Columbia Circuit to review: (1) EPA's determination that the use of electrical transformers, capacitors, and electromagnets was totally enclosed, (2) EPA's decision to set a regulatory cutoff at 5 ppm, and (3) EPA's decision to authorized the continued use of the 11 non-totally enclosed uses of PCEs. On October 30, 1980, the Court invalidated the regulatory exclusion for PCB concentrations below 50 ppm and the -determination that the use of transformers, capacitors and يعمله شتريان electromagnets was totally enclosed. However, the Court decided that there -was substantial evidence in the record to support EPA's decisions on the 11 use authorizations. Thus, the Court upheld -the 11 use authorizations A SHOW IN THE SECOND (Environmental Defense Fund, Inc. 🕶 🤭 Environmental Protection Agency, 638-F.2d 1267). ٠,٠

Subsequent to the promulgation of therule on May 31, 1979 and the 1980 Courter decision, three of these useauthorizations were amended. These - amendments were promulgated for the use and servicing of PCBs in electrical equipment transformers, electromagnets,and railroad transformers. Of the remaining use authorizations, four expire on July 1, 1984: Heat transfer systems, hydraulic systems, microscopy as a mounting medium, and small quantities for research and development. The four use authorizations that expire on July 1. 1984, contain various conditions.

Section 761.30(d) authorizes the use of PCBs in heat transfer systems until July 1. 1984, subject to conditions regarding testing and requirements for reducing PCB concentrations. The authorization t in the use of PCBs in hydraulic systems. ur ni July 1, 1984, in \$ 761 30(e) comfains similar requirements for testing and reducing PCB concentrations until the PCB concentration in the equipment reaches 50 ppm. (Since the May 31, 1979 a PCB Ban Rule established a regulatory cutoff at 50 ppm for the manufacture, --processing, distribution in commerce, and use of PCBs, EPA essentially left unregulated heat transfer and hydraulic . systems containing less then 50 ppm.)

The use authorization for the use of PCBs as a mounting medium in microscopy until July 1, 1984, in § 761.30(k), contains no special conditions or requirements. The use authorization for the use of small quantities of PCBs for research and

in Commerce and Use Prohibitions; Use in Electrical Equipment" published in the Federal Register of August 25, 1982, [47 FR 37342].

(5) Official rulemaking record from "Polychlorinated Biphenyls (PCBs); Manufacture, Processing, Distribution in Commerce and Use Prohibitions; Use in Microscopy and Research and Development" published in the Federal Register of November 17, 1983, (48 FR 52402).

(6) Official rulemaking record from "Polychlorinated Biphenyls (PCBs); Manufacturing. Processing, Distribution in Commerce Exemptions: Proposed Rules" published in the Foderal Register of November 1, 1983 (48 FR 50486).

B. Federal Register Notices

- (7) USEPA. "Polychlorinated Biphenyls (PCBs) Disposal and Marking Final Regulation". 43 FR 7150, February 17, 1978.
- (8) USEPA, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions". 44 FR 31514, May 31, 1979.
- (9) USEPA, "Polychlorinated Biphenyls (PCBs) Manufactuirng, Processing, Distribution in Commerce and Use Prohibitions; Use in Electrical Equipment". 47 FR 37342, August 25, 1982.
- (10) USEPA, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions; Use in Closed and Controlled Waste Manufacturing Processes". 47 FR 46980, October 21, 1982.
- (11) USEPA, "Polychlorinated Biphenyls (PCBs) Manufacture, Processing, Distribution in Commerce and Use Prohibitions; Use in Microscopy and Research and Development". 48 FR 52402, November 17, 1983.
- (12) USEPA, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce Exemptions; Proposed Rules", 48 FR -50486, November 1, 1983.

C. Support Documents

(13) USEPA. OPTS, EED, "Letter 1 Soliciting Data on Use Authorization for Use of PCBs in Microscopy." April 13, 1983.

- [14] Philadelphia Museum of Art, Mangene H. Butler, "Comments on Use Authorization for Microscopy." April 29, 1981
- (15) USEPA, OPTS, EED, "Record of Telephone Communication Between Martha Goodway of the Smithsonian and Denise Keehner of EPA." May 9(?), 1983.
- (16) R.P. Cargille Laboratories, Inc., William J. Sacher, "Petition for PCB Processing and Distribution in Commerce Exemption." July 18, 1983.

(17) McCrone Research Institute, Walter C. McCrone, "Petition from PCB Processing and Distribution in Commerce Prohibitions." July 9, 1983.

(18) McCrone Research Institute, Walter C. McCrone, "Letter Describing Safety Precautions in Handling of PCBs." January 7, 1983.

(19) Journal of the American Medical Association, "Letter: Polychlorinated Biphenyls in Microscope Immersion Oil." April 1, 1983.

VIII. Judicial Review

Judicial review of this final rule may be available under section 19 of TSCA in the United States Court of Appeals for the District of Columbia Circuit or for the circuit in which the person seeking review resides or has its principal place of business. To provide all interested persons an equal opportunity to file a timely petition for judicial review and to avoid so called "races to the courthouse," EPA has decided to promulgate this rule for purposes of judicial review two weeks after publication in the Federal Register, as reflected in "DATES" in this notice. The effective date has, in turn been calculated from the promulgation date.

List of Subjects in 40 CFR Part 761

Hazardous materials, Labeling, Polychlorinated biphenyls, Recordkeeping and reporting requirements, Environmental protection. (Sec. 6, Pub. L. 94–169; 96 Stat. 2025 (15 U.S.C. 2005))

Hatod. June 27, 1984 Alvin L. Alm. Acting Administrator

PART 761-{AMENDED}

Therefore, 40 CFR 761.30 is amended by revising paragraphs (1) and (k) and

adding paragraphs (n) and (e) to read as follows

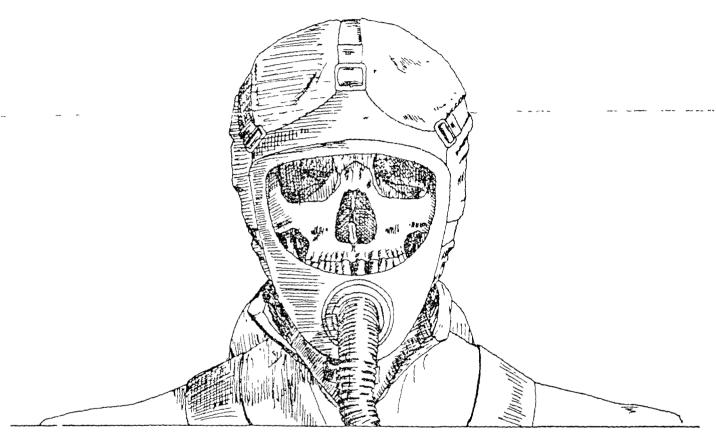
§ 761.30 Authorizations.

- (j) Small quantities for research and development. PCBs may be used in small quantities for research and development, as defined in § 761 3(ee), in a manner other than a totally enclosed manner, indefinitely. Manufacture, processing, and distribution in commerce of PCBs in small quantities for research and development is permitted only for persons who have been granted an exemption under TSCA section 6(e)(3)(B).
- (k) Microscopy mounting medium. PCBs may be used as a permanent microscopic mounting medium in a manner other than a totally enclosed member indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as a mounting medium are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).
- (n) Microscopy immersion oil. PCBs may be used as an immersion oil in fluorescence microscopy, in a manner other than a totally enclosed manner indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as a low fluorescence immersion oil are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).
- (o) Optical liquids. PCBs may be used as optical liquids in a manner other than a totally enclosed manner indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as optical liquids are reimitted only for persons who are granter an exemption under FSCA section 6(e)(3)(B).

[TR Doe Re-17911 Filed T-0-46; 9-45 AM]
BILLING CODE 556-50-18

A high-rise remains abandoned as a minor fire results in a major controversy.

Contamination



By ALAN J SALY

At 5.35 * M on February 5, 1981, a fire broke out in the the basement of a state office building in Binghamton, New York—part of a \$24-million complex opened in 1973. As a result of that relatively minor fire, the 18-story building has now been totally abandoned—the first in America to be completely contaminated with toxic hydrocarbons known as polychlorinated biphenyls (PCBs).

As electrical arcing ignited insulation around a transformer in the basement of the building, an automatically activated alarm went off at the nearby headquarters of the Binghamton Fire Department. (A city with a population of 56,000, Binghamton is located in south central New York State near the Pennsylvania border.)

Alan J Saly works for CBS News

"The building had an ADT system," recalls BFD Assistant Chief Gene Faughnan "It had gone off 200 or 300 times already, and each time it had turned out to be nothing So, after the first 20 or 30 times, instead of responding with a full-alarm assignment, we began the practice of sending out one engine."

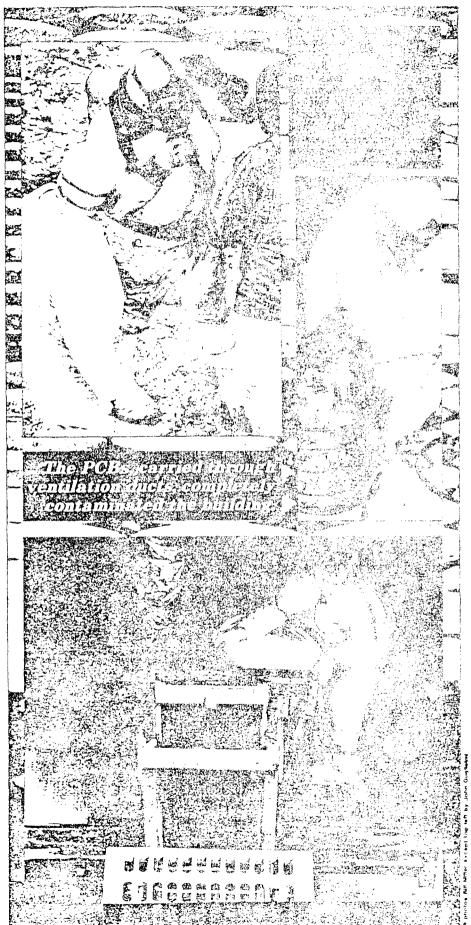
Shortly after Engine 5 was dispatched to the ADT alarm, a security guard from the state building called fire department headquarters and confirmed that there actually was a fire in progress. A full assignment (three engine companies and two truck companies) was then dispatched

"There is a parking garage underneath the building," recalled Assistant Chief Faughnan "We went down the ramp, and when we got about halfway down, I noticed some smoke At the time I thought it was a car fire We weren t very excited Then there was an explosion, and I knew we had problems." The explosion was followed by a series of smaller explosions, as the electrical arcing continued in the transformer

Said Assistant Chief Faughnan: "The machine room," which housed electrical equipment, was in front of us. As we approached it, we were met by a maintenance man who said the fire was in the room. We went through the hallway to the entrance I opened the door a crack, and saw heavy black smoke and electrical arcing. I closed the door."

While a man went to contact the electric company and get the power shut off, the firefighters charged lines in preparation for entry.

"Soon the electric company arrived a man named Kellerman—and said the juice was off. The first men in entered the room on their hands and knees wearing self-contained breathing appa



ratus (demand) and standard turnout coats. We proceeded into the room, and put out several small fires, using only 15 to 20 gallons of water. We vented the heavy black smoke through an overhead door. It didn't take long to put down the fire. It was declared under control at 6:50 a m.

'I could smell a strong odor like mothballs," Assistant Chief Faughnan said. "I smelled it right from the beginning."

It came from an oily substance which coated the floor of the machine room. "The first three men had entered crawling in the stuff." Faughnan continued. "They came out all covered with it. Some of them got burns through their clothes—the stuff was absorbed through fabric. The smell was all over their clothes.

"Kellerman told us that he was pretty sure the transformer contained pyranol. I asked him what that was. He said that when electric company personnel came into contact with it, their clothes had to be placed in steel drums and shipped away 'O.K.,' I said, 'but what is it?' Kellerman said, 'It's a PCB, and they're toxic to human beings.' "

Pyranol is the trade name for a PCB used in electrical transformers as a coolant. PCBs belong to a family of chemical compounds called polychlorinated phenyls. They have been used in rubber products and insulating materials, in brake linings, in paints and varnishes, in waxes, and also in pesticides.

Knowledge of PCB toxicity comes mainly from an incident of high-level contamination of rice oil in Japan in 1968 where 10,000 people were affected. Symptoms observed included a higher than normal proportion of miscarriages and stillbirths, skin rashes, and swelling of joints. High doses of PCBs given to hamsters in a Food and Drug Administration (FDA) study around that time also resulted in a high incidence of birth defects. There is also a possibility that PCBs cause cancer. They accumulate in fatty tissues in the body, and are permanently retained. They are now found throughout the world, contaminating man and animals in small amounts.

In September of 1979, 325,000 chickens and 750,000 eggs were destroyed when feed was contaminated by pyranol in Billings, Montana. There on the grounds of the Pierce Packing Company, 200 gallons of the PCB leaked from a ruptured transformer into waste water used for recovering solids for use in meat meal. The meal was fed to animals, and the contamination spread to 19 states, Canada and Japan.

Sherwin Gardner, acting commissioner of the FDA at the time, said that the contamination "posed no immediate

threat to consumers in the affected states.

Used transformer oil, sprayed on animals as part of a pesticide treatment, has been linked to cattle deaths in Kansas, and PCB herbicides have been indicated in a rash of miscarriages among women in Alsea, Oregon in 1979.

Eleven hundred gallons of pyranol were in the transformer that caught fire in Binghamton, and an estimated 125 gallons of the chemical spilled.

Assistant Chief Faughnan called Chemtrec from the fire scene for further information on PCBs. Chemtrec confirmed that PCB was a contaminant and referred Faughnan to the Environmental Protection Agency (EPA). Using information gained from the EPA as well as Monsanto, the company which manufactured the PCBs, he got further advice on how to protect personnel on the scene from further contamination.

Shortly afterwards, Binghamton Chief Ed Faughnan, brother of Gene Faughnan, arrived on the scene to take command. Assistant Chief Faughnan recommended that the department follow electrician Kellerman's instructions. "I advised our firefighters to leave all the tools where they were and put all turnout gear in plastic bags," said Assistant Chief Faughnan.

Some firefighters remained on the scene for cleanup operations, while all non-essential firefighters were sent back to their stations immediately. Meanwhile, arrangements were made with Binghamton General Hospital to have blood tests conducted on all exposed

During the cleanup operation, as is generally the case at most fire scenes, the men removed their masks. After completing overhaul operations and returning to the firehouse, al! the men stripped down, put their clothes in plastic bags, and showered. According to Assistant Chief Faughnan, one man suffered from acute nausea after the fire, and several developed rashes. "There was one man who ran out of air in the machine room; he got it the worst. But we probably all got a little." Results of the blood tests, however, showed no significant levels of PCB contamination.

The New York State Health Department began a cleanup of the building immediately, contracting an outside firm, the New England Pollution Control Company, to do the work. Two of their men developed skin rashes. The PCBs had totally contaminated the building, carried to all 18 floors by ventilation ducts.

The state cleanup was abruptly halted on February 26, when it was discovered that two substances much more toxic than PCBs, dioxin and dibenzofuran, were found in samples of the soot. These chemicals are the active ingredients in Agent Orange, the Vietnam War defoliant

PCBs, dioxin, and dibenzofuran are at the center of continuing controversy as are the sharply contradictory studies on their effects. Recent studies suggest that dioxin can be produced when PCBs are burned At Binghamton, PCBs were present both in the coolant pyranol and in the plastic insulation around the transformer.

In the furor that followed news reports of PCB and dioxin contamination,

New York Governor Hugh Carev, at a news conference on March 4, said he'd drink a glass of PCBs to show they were not dangerous

By that time, \$500,000 had already been spent to clean the building-not including the cost to relocate 750 state

Dr. Steven Stellman of the American Cancer Society said that the levels of dioxin found in the state building were "higher than the average range of dioxins present in Agent Orange and much higher than the level found in commercial herbicides."

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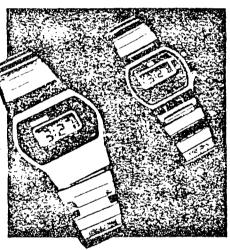
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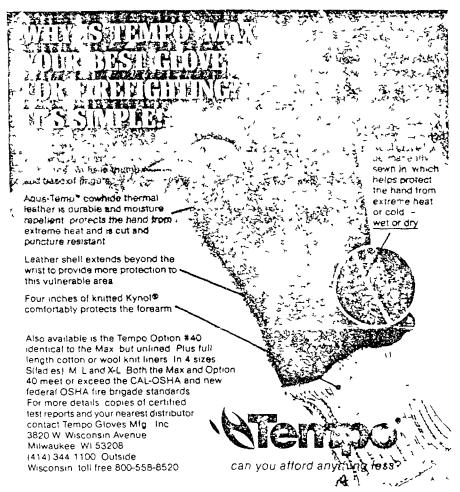
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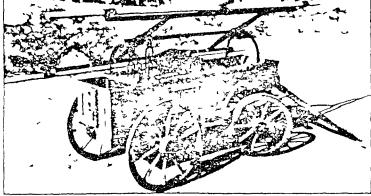


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a non-profit organization

He said that dioxin is a carcinogen, and that there was ample evidence that industrial exposure to dioxin causes a whole range of conditions such as skin conditions neurological disturbances, and possibly psychological and gastroin testinal disturbances.

Recently new studies have raised doubts about the ability of standard protective garments to prevent PCB penetration and contamination. Ir research conducted by two scientists at

Though the EPA banned PCB manufacture in 1977, 295 million pounds are still used in electrical equipment in the U.S.

the Los Alamos National Laboratories, under contract to the National Institute for Occupational Safety and Health, 10 out of 13 widely accepted' commercially available protective garments were found to be unsatisfactory' for worker protection against PCBs and a group of similar compounds the halogenated ethanes. According to the magazine Science News PCBs penetrated some of the protective garments in just two or three minutes. The three garments which resisted PCB breakthrough were made of Viton. Teffon, and polyvinyl alcoholic fabrics.

Although the EPA banned PCB man ufacture in 1977, it is estimated that 295 million pounds still remain in use in electrical equipment in the US. The EPA has authorized the use of this equipment for the next 30 to 40 years.

I can't understand why the transformer was not in a sealed vault' Assistant. Chief Faughnan says 'It shouldn't even have been in the building

Thomas Quarne a Binghamton fire fighter and public relations man for the union is concerned about the was state officials handled the PCB fire. They didn't know what they had he said. They were very nonchalant about it." The union said Quanne, is still deciding what action if any to take. That will probably depend partially on the findings of an international panel of scientists who will meet soon in New York. City to talk about the fire, and now to clean the state building which has been closed indefinitely.

I got quite a few men on the department who served in Vietnam. Assistant Chief Faughnan says and they told me about Agent Orange. The upshot is if you have dioxin poisoning, there's no cure for it.

#-652

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PCBs spread by wasts-oil use?

Federal and state environment 1 on coals are focusin on waite-oil coalers is a major source of wildsproad PCB (pillellorinated biphonyl) contamination in Midwest waterways.

Investigators have shown that miche ar westeral sand solvents from sellentes solinces such as element from the comequipment manufactulers and police plants are con aminated with PCBs once widely used in train ormers and clear a motors. Officials have found that molt was'e-oil dealers fall to creek whether the material they collect is contaminated before they recond on it for result Asia EUL PCBIAda antigumana angga into home and ind strial furnaces and on to long standard of the following of the "one of the major sources in the wuntry for water pollulon declared an Envilo mental Proceesion Axeres origial

Max Wilcomo of EPA's Natura, Cit Molonfice says the waste-oil hould is are "modern-day Tipho J Mary's They don't understand the pin im and can't river out what's happening to them.

In one trajor thes all on Minneso a pollution at horizon are sort into githe activities of more thin 20 waste oil did ensith the same who trajorilized are did buting configurated on The land case to Minneso Oil (Pipes on Minne) which received oilshipments from a transformer salvager in South Divota whise oil contained PCB (Columbia pollutionation of the Minneso a Pollution Control Agency (Minch Albert Value) according to the Minneso a Pollution Control Agency (Minch Albert Value) that the oil contained on CCBs. The company treats oil for the oil reads and as feel to industries and schools MPC Values.

MPCA also says two when dealers, Mankato OI (Mankato Minn) and Hy Friedman (Minneapolis) a lened visoid PCB laden fuel to customers including private homes. Those hims claim they werent awarn they were selling contaminated oil.

Samples of recycled oil sold by such dealers has turned up fairly high PCB levels, says MPCNs Richald Fable who adds has be often finds recycled oil with 100 parts per milition of the contaminant. These are local small time collectors—who go the oil themselves from o at ansformers—oil ten mixing it with No 6 fact of the relational cust nors or with oil durational from resalt to others. PCB of centration in oil for resalt to others. PCB of centration in oil originally collected from junked transformers or miters is often in

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When oil that contained numerous hazaruous substances including PCBs seeped from an illegal disposal sidence as stream at Dimer. More authorities are and fideral officials traced the source to waste collector. Raymond Biss EPA in that dia SSC 2000 change averting pollution of a nearby scenic river.

Har y Gilmer of EPA's remonal coes in Ranshs City said the dumning incident involved extremely toxic was as. At certain snots around the disposal life he said PCB concentrations in the glound reached 4%. The origin of most of the wastes was unknown. Gilmer said a fough EPA traced to present of branch on instension phenyl ether to Monanto. In commany says it have best some wastes, although since the mid 1960s it has had a policy of tracing its wastes to assure they are disposed of property.

EPA says identifying the source of

contaminants in waste oil and even of the waster themselves, is very difficult Coulretem receive oil from hi me stations truck i el junkyards trans orner salvarers. a dipower pun sinace into the back upors o industry as e e or dal culbit EPA's Bremer contends that many waste haulers are paid by companies to care away their was as No questions are asked and "they just want to he rid of the sull reads On echer and Walt Kovalick of EPA's Huzardous Was e Disposa section in Washington D.C. says Some companies are so concerned about their wasks that they send inspectors out to watch where the wasted go

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The coke oven bathery hassays can be keptingle hot for only a limited time. Main the dumage was to poly ion control and tulls orage facilities, the 60 coxe ovens we enotical outly affected.

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January 25 1978 CHEMICAL WEEK 15

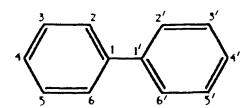
WHAT ARE PCBS, AND WHY IS THAT IMPORTANT TO YOU?

Ann L. Alford-Stevens, Research Chemist Environmental Monitoring and Support Laboratory U. S. Environmental Protection Agency Cincinnati, Ohio 45268

Polychlorinated biphenyls (PCBs) are among 83 contaminants for which regulations are required by the 1986 Amendments to the Safe Drinking Water Act (SDWA). On November 13, 1985, (1), the U.S. Environmental Protection Agency (USEPA) stated an intent to propose a primary regulation for PCBs as a class of compounds, not as Aroclors formulations. A recommended maximum contaminant level (RMCL) of 0 mg/L was proposed for PCBs, and a maximum contaminant level (MCL) must be established as close as feasible to the RMCL. Therefore, analysts, utility managers, water treatment engineers, and government officials must be concerned about the analytical methods available for compliance monitoring for PCBs.

inderstanding monitoring methods for PCBs requires knowledge of the distinction between PCBs and Aroclors. Although PCBs are considered to be only 1 of the 83 listed contaminants, they are actually a class of 209 possible compounds that are formed by chlorination of biphenyl. These compounds are important environmental pollutants throughout the world and have been the subject of many analyses for the past 20 years. Numerous articles have been published about them since they were first reported in 1966 (2), and a recent book on the analytical chemistry of PCBs included a bibliography of more than 1200 references (3). Frequent synonymous use of the terms PCBs and Aroclor(s), however, indicates a lack of understanding of the difference between the two terms and the importance of distinguishing between them.

PCB contains 1-10 chlorine atoms substituted on the biphenyl ring im positions labeled 2-6 and 2'-6" in the structural diagram below.



The number of possible arrangements of chlorine atoms on the biphenyl ring makes possible 209 individual PCBs, which are called congeners. PCB congeners can be divided into groups according to the number of chlorine atoms, and members of each group are called isomers, which differ only in structural arrangement of chlorine atoms (Table I). For example, 46 PCB congeners contain five chlorine substituents (Cl₅-PCBs) and compose an isomer group. Only one PCB, however, contains 10 chlorine atoms.

Aroclor is a United States tradename for mixtures of PCBs that were produced by collecting boiling point fractions by distilling products of chlorinated biphenyls. Although some Aroclors were chlorinated terphenyls or mixtures of chlorinated terphenyls and chlorinated biphenyls, wirtually all attention has focused on nine Aroclors that are composed for PCBs (Table II). These Aroclors are designated with a four digit number, with the last two digits usually indicating the weight percent of chlorine. An exception is Aroclor 1016, which contains approximately 40% chlorine. It was introduced in the early 1970s because it was perceived to be less hazardous than Aroclor 1242, which it replaced.

As Aroclor chlorine content increases, the "level" of chlorination of major components increases. For example, Aroclor 1221 contains primarily Cl₁-PCBs, but "Aroclor 1268 contains primarily Cl₈-Cl₁₀-PCBs (Table III). Ant important point is that all these nine Aroclors are mixtures of PCB congeners, but not all 209 PCB congeners are present in them, because some positions on the biphenyl ring are more susceptable to chlorination than others. About 125 PCBs have been found in Aroclors, but the number of reported components of each Aroclor has varied (Table II), depending on the types of analyses performed and quantities analyzed. In addition, the composition of any Aroclor varies among batches.

Initially, Aroclors were used as coolant/dielectric fluids in transformers and capacitors, as heat transfer fluids, and as coatings to reduce wood flammability. Later, they were incorporated into paints, inks, dust control agents, carbonless paper, and pesticides. Although Aroclors are no longer commercially produced, they are still used in about 2.8 million capacitors and 150,000 transformers, some of which fail each year and introduce additional PCBs into the environment (4). In addition, millions of pounds of PCBs were introduced into the environment during the 45 years that Aroclors were manufactured and widely distributed. In the U. S., total Aroclor production has been estimated at 600 million kg (5) and 140 million kg accumulated in landfills by 1978 (6).

Although most (but not all) PCBs entered the environment as Aroclors, environmental samples frequently contain PCBs that are not intact Aroclors, because Aroclor components have variable chemical and physical characteristics. Water solubility, volatility, and biodegradability of PCB congeners decrease with increasing level of chlorination. For example, Aroclor 1221, which contains primarily Cl₁-PCBs, would be expected to be degraded more rapidly than any other Aroclor.

The more soluble and volatile PCBs are preferentially transported, and PCBs are now found in areas where Aroclors have never been used. Recent work, however, indicates that PCB distribution in sediment pore water is not simply a two-phase sediment-water partitioning (7). Wore highly chlorinated PCB congeners were enriched in sediment pore water relative to less chlorinated congeners. Indeed, concentrations of many of the higher chlorinated, less soluble compounds exceed reported solubilities. This anomaly was attributed to association of PCBs with dissolved organic matter, a factor of potential importance in source water for drinking water utilities.

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Analytical Procedures

Two basic approaches are available for PCB determinations in drinking water. One approach involves identification and measurement of PCBs in terms of Aroclor mixtures. Either an electron capture (EC) detector (8-9) or a mass spectrometer detector (10) can be used. The other involves identification and measurement of PCBs by level of chlorination; an MS detector is required (11). Both approaches require gas chromatographic (GC) separation of sample extract components. Conventional EC procedures use packed columns, but capillary columns are now widely used with both EC and MS detectors. The improved separation achieved with capillary columns can be observed by comparing capillary and packed column separation of Aroclor 1260 components (Figure 1).

Each detector has advantages and disadvantages. An EC detector is quite sensitive to most PCBs and is relatively inexpensive. Many analysts are familiar with conventional EC determinations of Aroclors and can provide analytical results relatively quickly. An MS detector is less sensitive to most PCBs and is expensive relative to an EC detector. Both detectors respond to compounds other than PCBs. An EC detector responds only to electronegative compounds that attract electrons, but the MS responds to almost any compound that elutes from a GC. The EC can distinguish among compounds only by retention times. It responds to all chlorinated and brominated compounds but does not provide additional information about compound structure. An MS, however, provides important structural information.

EC Determinations of PCBs as Aroclors

With an EC detector, an analyst must identify an Aroclor by comparing the GC peak pattern produced by the sample to that produced by an Aroclor standard or a mixture of Aroclors. When a sample contains one intact Aroclor and no interfering compounds, this approach is quite feasible, and Aroclors can be determined rapidly, reliably, and relatively inexpensively. A soil sample collected soon after an accidental spill provides an excellent example of an environmental sample amenable to conventional Aroclor determinations with an EC detector (Figure 2). Comparison of the GC peak pattern of the sample extract with that of Aroclor 1242 reveals an almost perfect match. Retention times of peaks produced by the standard are the same as those produced by the sample extract. The earliest eluting (lower chlorinated) PCBs in the sample are less abundant than equivalent components of Aroclor 1242, but the differences are small. A Concentration measured as Aroclor 1242 is not significantly affected by those small differences.

Some analysts can examine such a chromatogram briefly and immediately identify the Aroclor present; unfortunately, others cannot. Although Aroclor 1242 should have been easily identified and measured in this sample, two laboratories obtained quite different results. One identified and measured sample contamination as 95 mg/kg Aroclor 1248; the other identified Aroclor 1242 and estimated a concentration of 460 mg/kg. (The author's laboratory measured 350 mg/kg of Aroclor 1242.)

The cause of the misidentification is unknown. ATThough Aroclors 1242 and 1248 contain several peaks with identical retention times, significant differences in peak patterns should have been readily apparent.

When sample peak patterns do not closely resemble those of an Aroclor, identification is left to the analyst's judgement, because criteria for required similarity have not been specified. For example, if the largest GC peak in the chromatogram of Aroclor 1242 (Figure 2a) was not observed in the sample chromatogram, one analyst might decide that Aroclor 1242 could not be identified and another might ignore the difference.

PCB contamination in environmental samples is usually more complex than that in the soil sample previously discussed, because many samples contain mixtures of Aroclors or Aroclor remnants, rather than virtually intact Aroclors. With those samples, pattern recognition is difficult at best, and sometimes is impossible.

Data users must be aware of the meaning of PCB results reported as an Aroclor or mixture of Aroclors. It means only that an analyst decided that the sample peak pattern more closely resembled a particular Aroclor standard (or mixture of standards) than any other standard to which it was compared. If appropriate standards are not analyzed, sample components will be misidentified. Concentrations measured in terms of misidentified Aroclors will also be incorrect.

MS Determinations of PCBs as Aroclors

Despite the wealth of information provided by an MS detector, whtil recently 'MS determinations of PCBs diso depended on pattern recognition; because standards of individual compounds were not available and alternative detector calibration procedures had not been developed. Despite its dependence on pattern recognition, the MS method for Aroclor determinations (10) significantly increased the level of confidence that observed sample components were truly PCBs rather than some other electron-attracting compounds. Its major disadvantage was the lack of sensitivity compared to EC detector determinations. That MS method did not address the issue of mixtures of Aroclors, but mixtures, such as Aroclors 1242 and 1254 (Figure 3), are not uncommon in environmental samples. Such mixtures challenge an analyst's pattern recognition capabilities. Fortunately, few environmental samples will contain the mixture of seven Aroclors (1221, 1232, 1016, 1254, 1260, 1262, and 1260) analyzed with capillary column GC/MS to produce the total ion current profile (TICP) shown in Figure 4. As indicated in the diagram of retention time ranges of Aroclor components by isomer group, PCBs containing different numbers of chlorine atoms can coelute. An MS detector, however, can distinguish them by level of chlorination.

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MS Determination of PCB Isomer Groups

In addition to all the information obtained with an EC detector, an MS also detector provides the molecular weight (MW) and number of chlorine atoms in PCB sample components. Therefore, an MS detector can be used for any sample, whether it contains intact Aroclor(s), degraded Aroclor(s), or non-Aroclor PCBs. An MS detector can also provide information about other sample components with the same data obtained for PCB determinations.

Some environmental samples contain components that make EC determinations of PCBs impossible. Such a sample is a soil from a Superfund site contaminated with PCBs by a former manufacturer of transformers. A routine EC detector method would not provide reliable PCB determinations because the sample contains PCBs along with other compounds (chlorinated naphthalenes) to which the EC detector responds. Rigorous sample fractionation procedures could be used to remove chlorinated naphthalenes, but such procedures are not included in routine EC methods. An MS detector not only responds to both classes of compounds but also provides information that permits identification and measurement of both. Analysis of that sample extract with capillary column GC/MS revealed the presence of at least 65 PCBs from seven isomer groups (Cl₂-Cl₈; Table IV). Undoubtedly, more than 65 PCBs were present, because an MS cannot distinguish coeluting isomers. In addition, relatively low abundance PCB sample components would not have been detected.

In this sample, each peak indicated with a tick mark in Figure 5 contained PCBs at different levels of chlorination. In addition, chlorinated naphthalenes coeluted with PCBs. For example, one GC peak was produced by at least three components, a Cl_A-PCB , a Cl_3-PCB , and a Cl₄-naphthalene. The mass spectrum of each of these compounds contains clusters of ions that provide information about the MW and number of chlorine atoms. When they coelute, the resulting mass spectrum contains ions characteristic of all three compounds (Figure 6). example, a Cl_4 -PCB produces a cluster of ions centered around m/z 292, a Cl₃-PCB produces a cluster beginning at m/z 256, and a Cl₄-naphthalene produces a cluster centered around m/z 266. Each compound loses chlorine atoms to produce fragment ions that also are important for identification. For PCBs, this loss of chlorine produces overlapping ion clusters. For example, a loss of one chlorine atom from a Cl₄-PCB results in a cluster of ions beginning at m/z 255 and overlapping the cluster beginning at m/z 256. Although PCB fragmentation produces complex spectra, these ions provide information that allows unambiguous identification of PCBs by level of chlorination, even when they are not chromatographically separated from other types of compounds or from other PCBs containing different numbers of chlorines. An example of characteristic ions of $\text{Cl}_4\text{-Cl}_6\text{-PCBs}$ and the result of coelution of $\text{Cl}_4\text{-}$ and Cl5-PCBs are shown in Figure 7. An EC detector, however, cannot distinguish PCBs from other chlorinated compounds or from brominated compounds. Even some non-halogenated compounds that are common pollutants (e.q., phthalate esters) produce EC responses that can interfere with PCB determinations.

Even if this soil sample had not contained chlorinated naphthalenes, an analyst would have had difficulty in determining PCB contamination in terms of Aroclors. The distributions of PCBs by level of chlorination did not resemble those of any single Aroclor or any simple combination of two Aroclors. A reasonable match of calculated weight percent distributions of PCB isomer groups with measured distributions could be obtained only by combining Aroclors 1248, 1254, and 1260 in ratios of approximately 5:8:1, respectively (Figure 8). The chances of an analyst preparing and analyzing that particular mixture of Aroclors for comparison with this sample are small.

Identification of Specific PCB Congeners

Although identification of specific PCB congeners is now feasible in only a few laboratories, this approach is worthy of brief discussion because many PCB properties depend not only on the number of chlorines but also their arrangement on the biphenyl ring. For example, 3,3'4,4'- Cl_4 -PCB is thought to be one of the most toxic PCB congeners (12). Unfortunately, other PCBs have retention times very similar to that of 3,3',4,4'-Cl₄-PCB (13), and an EC detector cannot distinguish among them. With an MS detector, this particular Cl_4 -PCB is easily distinguished from other closely eluting PCBs, because the latter all contain five or six chlorines rather than four. For most specific PCBs, however, standards of pure, individual compounds are necessary to ensure that the sample component is the compound being sought. Because standards of all 209 PCB congeners are not commercially available, this is not feasible in most laboratories. Even if all standards were available, detector calibration procedures would make this an unrealistic approach for routine monitoring. In addition, with an EC detector, extensive sample preparation procedures are required to remove all non-PCB compounds that produce an EC response.

Concentration Measurement Procedures

The response of both EC and MS detectors varies not only with PCB level of chlorination but also among PCB isomers at any given level of chlorination. An EC detector response generally increases with increasing number of chlorines whereas an MS detector response decreases. The EC detector response has been measured for all 209 PCB congeners. Overall, the variability was reported to be a factor of 100, with the highest response measured for a Cl7-PCB and the lowest for a Cl1-PCB (13). Within each isomer group, large differences in EC response were observed, with the greatest variability (a factor of 18) among Cl2-PCBs. When MS detector response was measured for 91 individual PCBs, responses for Cl1-PCBs were about 5 to 10 times the Cl10-PCB response, and maximum variability was a factor of 3 among members of one isomer group, Cl5-PCBs (14).

With EC determinations of PCBs as Aroclors, the analyst must relate peak heights or areas in samples to those in Aroclor standards. The most commonly cited measurement procedure is that developed in 1973 by

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Webb and McCall (15). That procedure involved packed column GC data and required measurement of every chromatographic peak. Many analysts, however, use a variation of the Webb-McCall procedure and select only one or a few peaks for concentration measurements. The particular peaks selected and the measurement technique used can be a significant source of data variability (16).

A relatively recent practical approach to MS measurements of PCBs by level of chlorination uses one individual PCB from each isomer group to calibrate detector response for all isomers (11). Those PCB congeners are commercially available, either separately or together in solution. That measurement procedure has an inherent bias, which is minimized by using the isomer that produces an MS response nearest that of the mean response for all available members of each isomer group.

Method Detection Limit

With any PCB measurement approach, determination of a method detection limit (MDL) is a problem, because environmental samples contain varying concentrations of individual PCBs. The November 13, 1985, proposed rules (1) defined an MDL as the minimum concentration of a substance that can be measured and reported with 99% confidence that the true value is greater than zero, but the appropriate procedure to be used to calculate an MDL was not discussed.

A practical quantitation limit (PQL) has been defined as the lowest quantity that can be reliably measured with specified accuracy and precision during routine laboratory operating conditions. This PQL can be determined through multi-laboratory studies or estimated by multi-plying reported MDLs by some value. A PQL of an allyterial usually restimated to be 5-10 times the MDL for that analyte. Therefore, how an MDL is defined and measured is of considerable importance to analysts responsible for monitoring PCBs, whether regulated as Aroclor formulations or as a class of compounds. If reported MDLs are to be used to determine PQLs, procedures used to determine MDLs must be standardized to produce comparable numbers.

With a widely used USEPA procedure, an MDL is the product of Student's t value and the standard deviation of replicate concentration measurements (17). With analytes that are mixtures, such as PCBs/Aroclors, the calculated MDL will depend on which detector signal(s) the analyst selects to measure concentrations. For Aroclor determinations, the problem can be illustrated with two chromatograms of Aroclor 1221. Because Aroclor 1221 components are present in varying relative abundance, the number of observed GC peaks depends on the absolute quantity injected. When a relatively large quantity is injected (Figure 9a), as many as 70 peaks are observed. When a relatively small quantity is injected (Figure 9b), however, the number of observed peaks decreases significantly.

The use of this MDL calculation procedure for mixtures has not been well addressed, and analysts have great flexibility in its application.

Before an MDL can be determined for an Aroclor, it must first be identified. One analyst may decide that only the first eluting peak in Figure 9a is necessary to identify Aroclor 1221, but another analyst can decide that all peaks as large as the last two eluting peaks must be present for identification. In the first case, a very small quantity of Aroclor 1221 would produce a signal of sufficient intensity to measure concentrations with excellent precision (i.e., low standard deviation), and a low MDL would be calculated. In the second case, however, a much larger quantity would be required to measure concentrations with the same precision. Calculated MDLs would not be comparable in those two situations.

Using an MS detector to identify and measure PCBs by level of chlorination seems to offer the opportunity to express MDLs in terms of isomer groups, but that is not the case. Even if an MS detector responded uniformly to all members of an isomer group, the varying distribution of PCBs by level of chlorination negates the validity of MDLs stated in terms of isomer groups. Although minimum detectable quantities have not been reported for each PCB congener, minimum quantities of individual PCBs detectable with an MS detector have been estimated (18). Those estimated quantities varied from 0.07 ng for a Cl₁-PCB to about 1 ng for Cl₁₀-PCB with a Cl₅-PCB detectable when about 0.5 ng was injected.

These estimates can be used to demonstrate why detection limits cannot be expressed in terms of quantities of isomer groups or total PCBs. For example, all 46 possible Cl5-PCBs could be present in an injected solution or sample extract. If the injected quantity of each were below the detection limit, none would be detected. Using the estimated detection limit of 0.5 ng and assuming it to be valid for all Cl5-PCBs, one can see that as much as 23 ng of Cl5-PCBs could be present with none detected. On the other hand, only one Cl10-PCB exists, and it could be detected if approximately 1 ng were injected under the same conditions. Therefore, the detection limit for an isomer group could vary from about 0.2 ng for Cl₁-PCBs (0.07 ng each of three possible isomers) to 23 ng for C15-PCBs, with only 1 ng required to detect Cl_{10} -PCB, although the MS detector is least sensitive to the latter. Detection limits for total PCBs will depend on how many individual congeners are present and how sensitive the MS detector is \$to the particular congeners.

Conclusions

Mixtures such as PCBs present an analytical challenge for compliance monitoring. The variable characteristics of individual PCBs make unlikely that an Aroclor mixture will emerge intact from drinking water treatment processes. In addition, untreated water is likely to contain PCBs that are not intact Aroclors. For example, groundwater may contain the more soluble PCBs leached from a landfull contaminated with Aroclors, and reservoir water may contain PCBs that were volatilized at some distant place, transported by wind, and washed from the air by precipitation. Therefore, monitoring needs to comply with proposed

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regulations will probably not be met with conventional determinations of PCBs as Aroclors with EC detectors. Standards of all individual PCB congeners are not available for compound-specific determinations. Even if they were available, using 209 compounds to calibrate detector response would make routine compliance monitoring prohibitively expensive in terms of time and cost of materials. For example, a laboratory would have to spend approximately \$5000 to obtain standards of currently available PCB congeners (about 100 compounds at an average cost of about \$50 for 5-50 mg of each). If PCB determinations by level of chlorination with an MS detector are necessary, the sensitivity achievable with this detector must be considered when MCLs or PQLs are established. Regardless of the analytical approach, procedures for calculating MDLs for PCBs must be standardized to obtain comparable numbers.

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- Alford-Stevens, A. L.; Bellar, T. A.; Eichelberger, J. W.; Budde, W. L. <u>Anal. Chem.</u> 1986, 58(9), 2014.

Table I

Table 1

Table I. Distribution of PCB Congeners by Level of Chlorination

PCB Isomer Group	Number of Compounds
Cl ₁ -PCBs	3
Cl ₂ -PCBs	12
Cl ₃ -PCBs	24
Cl ₄ -PCBs	42
Cl ₅ -PCBs	46
Cl ₆ -PCBs	42
Cl ₇ -PCBs	24
Cl ₈ -PCBs	12
C ₁₉ -PCBs	3
Cl ₁₀ -PCB	1
Total	209

Water and Environearch and Incinnati,

fe, S. J.

M.; Safe, (6), 468.

de, W. L.

366-373.

.; Budde,

.; Budde,

Table II. Characteristics of Commercial PCB Formulations, Aroclors

Aroclor	Distillation Range, °C	Reported No. of Components
1221	275-320	25
1232	290-325	34
1016	323-356	49
1242	325-366	74
1248	340-375	63
1254	365-390	116
1260	385-420	124
1262	390-425	Not available
1268	435-450	Not available

Table III. Weight Percent Distribution of PCB Isomer Groups in Aroclor Formulations

	1221	1232	1016	1242	1248	1254	1260	1262	1268
Cl ₁	99.4	31 5	0.9	0.6					
Cl ₂	0.6	28.2	24.3	19.5	0.7				
C13		21.5	47.1	39.1	22.0				
C14		18.7	27.3	36.6	61.3	16.0	0.3		
C1 ₅		0.4	0.4	4.2	16.0	59.9	12.2	3.8	
c1 ₆						23.8	50.3	37.2	
Cl ₇						0.4	31.4	42.4	4.0
Cl8							5.9	14.5	36.8
Cl ₉								1.4	52.3
Cl ₁₀									7.4

Table IV. PCBs Identified and Measured by Level of Chlorination in Soil Sample Extract

PCB Isomer Group	Measured Conc., ug/g	No. of Isomers
Cl ₂	81	3
C1 ₃	2815	9
C14	14250	18
Cl ₅	20500	18
C1 ₆	8950	13
Cl ₇	1043	6
Cl ₈	36	1
Total PCBs	47675	65

Figure

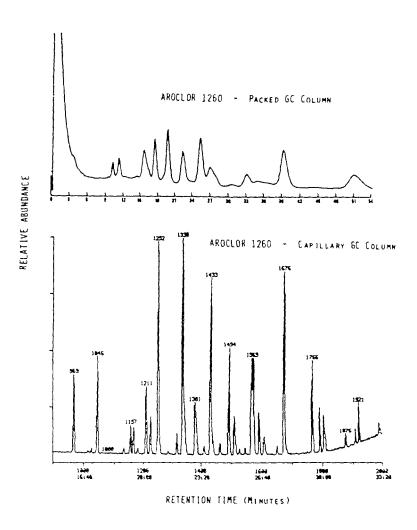


Figure 1. Peak pattern produced when Aroclor 1260 is separated with (a) a packed GC column and (b) a capillary GC column.

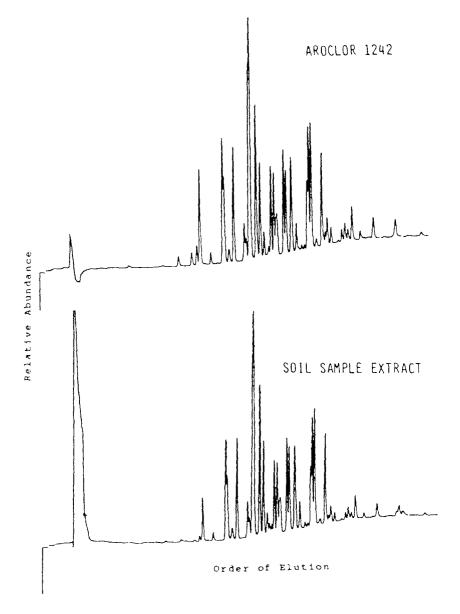


Figure 2. Peak pattern produced by Aroclor 1242 compared to that produced by a soil sample extract analyzed under the same conditions.



Relative Abundance

cı,

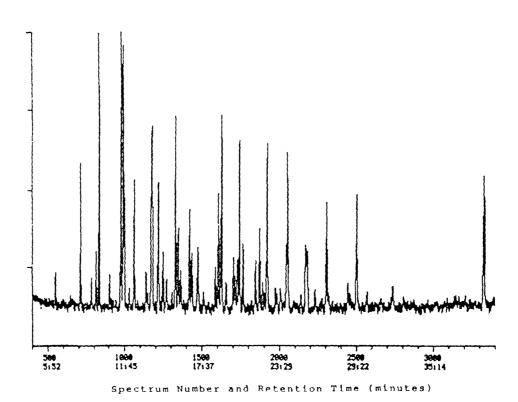


Figure 3. Total ion current profile produced by a mixture of Aroclors 1242 and 1254 separated with a capillary column.

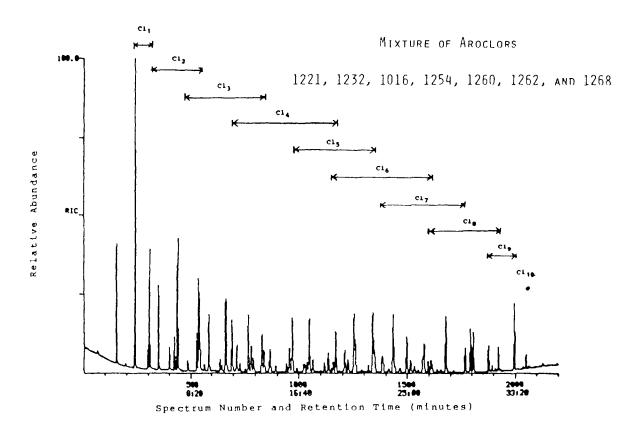
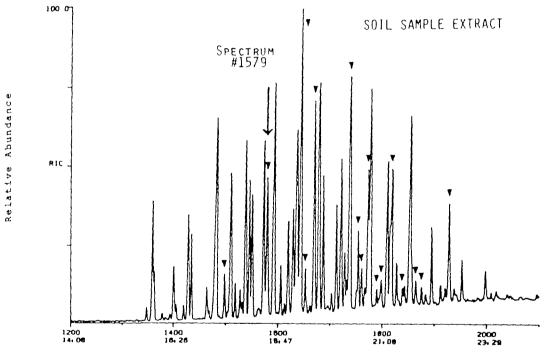


Figure 4. Retention time ranges of PCB components of a mixture of seven Aroclors separated with a capillary column.



Spectrum Number and Retention Time (minutes)

Figure 5. Total ion current profile of a soil sample extract that contains chlorinated naphthalenes that coelute with ${\rm Cl_{3}}^-$ and ${\rm Cl_{4}}$ -PCBs.

100 07

202

14:08 14:00 15:00 18:00 20:00 14:08 18:47 21:08 23:29

Spectrum Number and Retention Time (minutes)

Figure 5. Total ion current profile of a soil sample extract that contains chlorinated naphthalenes that coelute with Cl3- and Cl4-PCBs.

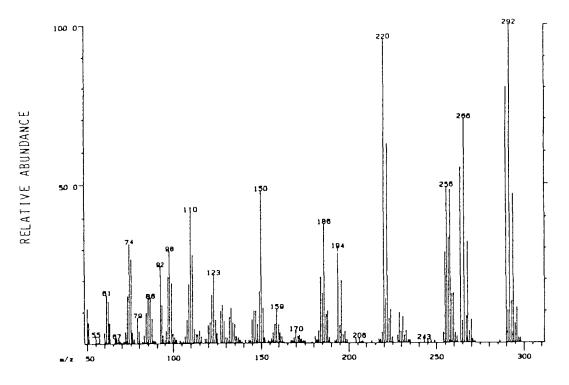


Figure 6 Mass spectrum (#1579) showing characteristic features of coeluting Cl₃-PCB, Cl₄-PCB, and Cl₄-naphthalene.

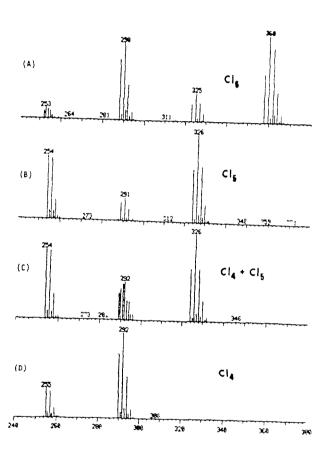
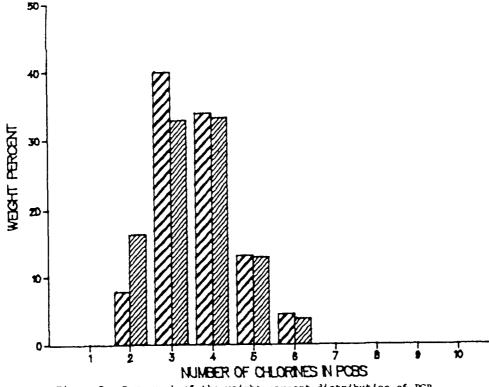
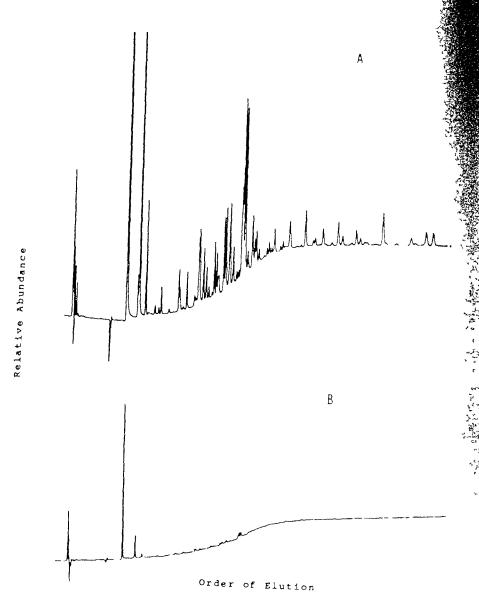


FIGURE 7. PARTIAL MASS SPECTRUM SHOWING CHARACTERISTIC FEATURES OF (A) A CL6-PCB, (B) A CL5-PCB, (C) COELUTING CL4- AND CL5-PCBs, AND (D) A CL4-PCB.





Pigure 8. Bar graph of the weight percent distribution of PCB isomer groups measured in a soil sample extract () and calculated in a mixture of Aroclors 1248, 1254, and 1260 ().



Pigure 9. Chromatogram of Aroclor 1221 produced by (a) a relatively large quantity and (b) a relatively small quantity.

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION THOMAS J. ANDERSON MARLENE J. FLUHARTY KERRY KAMMER O. STEWART MYERS DAVID D. OLSON RAYMOND POUPORE



JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

GORDON E. GUYER, Director

Plainwell District Headquarters P.O. Box 355, Plainwell, Michigan 49080

Date <u>August 11, 1988</u>

Mr Nasıng ASARI Quanty assurance office & City of Kalamazan - DPW 1415 N Harrison St Kalamazaci MI 49027

Subject: Information Packet

Enclosed is the information packet on PCBs (polychlorinated biphenyls) which you requested.

If you have any questions, please call me at (616) 685-9886.

Sincerely,

Mary A. Douglas

Environmental Quality Analyst

Waste Management Division

Plainwell District

Enclosure

R1026-1 1/86

WHY ARE PCBS HARMFUL TO OUR HEALTH AND ENVIRONMENT?

PCBs are harmful because once they are released into the environment, they tend not to break apart into other Instead, PCBs persist and take several decades to By remaining in the environment, they can be wslowly decompose. taken up and stored in the fatty tissues of all organisms from which they are slowly released into the blood stream. Therefore, due to storage in fat, the concentration of PCBs in the body tissues can increase with time even though PCB exposure levels may be very low. This process is called bipaccumulation. Further, as PCBs accumulate in the tissues of simple organisms, and as they are consumed by progressively higher organisms, the concentration increases. This process is called promagnification. Through bioaccumulation and biomagnification, the cumulative quantity of PCBs consumed by man, who is at the end of the food chain, can be quite significant.

These two factors, proaccumulation in organisms and biomagnification in the food chain, are especially significant because PCBs are harmful to health at low levels. Specifically, PCBs have been shown to cause chronic (long-term) toxic effects in some species of animals and aquatic species. Well-documented tests on laboratory animals show that various levels of PCBs can cause reproductive effects, gastric disorders, skinslesions, and cancerous tumors. PCBs may, even at low concentrations in water, reduce the supply of commercial fish, either through direct adverse effects on their development and juvenile growth or through reduction in populations of aquatic animals and plants which are the food sources for the fish.

PCBs may enter the body through the lungs, the gastrointestinal tract, and the skin. After absorption, PCBs are directlated in the blood throughout the body and are stored in fatty tissues, and ranvariety of porgans, including the liver, kidneys, lungs, adrenal glands, brain, heart, and skin.

PCBs pervade the environment. Measurable amounts of PCBs have been found in soils, water, fish, milk, and human tissue. PCBs have been found in fish from the Hudson River and the Great Lakes, in fish meal used as feed (as a result of a leaking heat exchanger), and in animal feed (as a result of a leaking transformer).

WHAT IS EPA DOING ABOUT PCBS?

In October 1976, Congress passed the Toxic Substances Control Act (TSCA) and, in section 6(e) of that law, specifically directed EPA to regulate PCBs. It should be noted that this was the only chemical substance specifically named in TSCA, because Congress believed that the chemical and toxicological properties of PCBs posed a significant risk to public health and the environment.

FACT SHEET POLYCHLORINATED BIPHENYLS

Polychlorinated biphenyls, also referred to as PCBs, belong to a family of organic compounds known as chlorinated hydrocarbons. PCBs were produced in the United States between 1929 and 1977, when the primary U.S. manufacturer voluntarily stopped making them because of mounting public concern over their harmful environmental effects. Most PCBs were sold for use as dielectric fluids (insulating liquids) in electrical transformers and capacitors. Although PCBs are no longer being made in this country for this use, many electrical transformers and capacitors once filled with PCBs are still in service. Today, a Federal law prohibits the manufacture of PCBs, controls the phase-out of their existing uses, and sees to their safe disposal. information bulletin discusses the facts and the measures being taken by the Environmental Protection Agency (EPA) to safeguard public health and the environment from the hazardous effects of PCBs.

WHAT ARE PCBS?

14

PCBs are part of the extensive family of organic chemicals known as chlorinated hydrocarbons. Virtually all PCBs in existence today have been synthetically manufactured. PCBs have a heavy oil-like consistency, high boiling points, a high degree of chemical stability, low flammability, low electrical conductivity, and weigh about 10-12 pounds per gallon.

HOW ARE PCBS USED?

As stated before, PCBs were primarily used in transformers and capacitors as dielectric fluid. Much of the PCBs previously marketed in the United States are still in service in these applications. PCBs manufactured as dielectric fluids were sold under several trade names, including: Aroclor, Askarel, Pyroclor, Sanotherm, and Pyranol. Askarel is also a generic name used for non-flammable dielectric fluids containing PCBs.

PCBs have also been used in a variety of other applications such as: heat transfer and hydraulic fluids; dye carriers in carbonless copy paper; plasticizers in paints, adhesives, and caulking compounds; and fillers in investment casting wax.

PCBs are currently being inadvertently produced as byproducts during the manufacture of certain organic chemicals. PCBs may be formed when chlorine, carbon, elevated temperatures or catalysts are present together in a process stream.

Section 6(e) of TSCA requires the proper disposal of PCBs, and prohibits their manufacture, processing, distribution in commerce, and use. EPA has issued regulations implementing these provisions. The following is a summary to date of these actions.

On May 31, 1979, EPA issued regulations effective July 1, 1979, to implement the Congressional ban on the manufacture, processing, distribution in commerce and use of PCBs, and to control the disposal of PCBs. EPA was sued by the Environmental Defense Fund (EDF) over certain provisions of these rules, which were subsequently remanded to EPA for additional rulemaking by the U.S. Court of Appeals for the District of Columbia Circuit. Specifically, EPA needed to issue additional rulemaking dealing with the use of PCBs in electrical equipment, and rulemaking on the manufacture, processing, distribution in commerce and use of low concentrations of PCBs (PCBs in concentrations below 50 parts per million (ppm)).

On August 25, 1982, a final rule amendment covering the use of PCBs in electrical equipment was issued. The major provisions of the rule allow the continued use of electrical equipment containing PCBs according to certain use and servicing restrictions. The use of transformers and electromagnets containing at least 500 ppm PCBs requires inspection and maintenance for leaks of dielectric fluid. However, these uses are prohibited after October 1, 1985 wherever the equipment also poses an exposure risk to food or feed. The use of capacitors containing three or more pounds of PCB dielectric fluid is prohibited after October 1, 1988, except when located in restricted access electrical substations or restricted access indoor installations, where they may be kept in service for the remainder of their useful lives.

Although PCBs are no longer being manufactured for use as a dielectric fluid, certain chemical manufacturing processes result in the inadvertent production of PCBs as impurities or byproducts. Another final rule amendment to the May 1979 regulations, released on October 21, 1982, covers those situations where PCBs are produced inadvertently but either are not released (closed processes), or are released only to wastes which are then properly disposed of (controlled waste processes). The rule sets up a voluntary exclusion for certain types of extremely low exposure manufacturing processes. The major provision of this rule provides an exclusion from further regulation to those processes that do not release PCBs into the air, water, or products in concentrations above levels that can be practically measured, as stated in the rule. Manufacturers who qualify, and desire exclusion, must keep records and notify EPA of their excluded processes.

One provision of the comprehensive 1979 PCB rule was an authorization permitting the use of PCBs in railroad transformers until January 1, 1982. On January 3, 1983, the May 1979 rule was amended by EPA to extend the use authorization with certain

9

restrictions. The performance deadlines were changed to allow affected railroad organizations to service their transformers consistent with commuter transit needs. These extensions were particularly important because it had not been determined until October 1981 that an adequate PCB substitute for railroad transformers had been sufficiently tested. The amended schedule runs from July 1, 1983 through July 1, 1986.

In addition, under the January 3, 1983 amendment, railroad transformers containing PCBs in concentrations equal to or less than 1,000 ppm may continue to be used for their remaining useful life.

WHERE CAN MORE INFORMATION ON PCBS BE OBTAINED?

To get additional copies of this PCB Fact Sheet or copies of the FEDERAL REGISTER notices highlighted in this publication call, toll-free, 800-424-9065 (in Washington, D.C., dial 554-1404). At $a=\frac{1}{2}$ Question & Analysis Record.

The information is provided by the TSCA Industry Assistance Office which is mandated by section 26 of TSCA to provide nonfinancial technical-compliance assistance to industry and others on TSCA's implementation actions.

To date, over 40 FEDERAL REGISTER notices, dealing with the control of PCBs under TSCA, have been published by EPA. However, the most important of these notices are listed here, and will be sent to you by calling the toll-free number mentioned above.

- o May 31, 1979 PCB Manufacturing, Processing,
 Distribution in Commerce, and
 Use Prohibitions Final Rule
 (includes Disposal Requirements).
- o May 1, 1980 Expiration of the Open Border Policy for PCB Disposal.
- o August 25, 1982 PCB Use in Electrical Equipment Rule.
- o October 21, 1982 ... PCB Use in Closed and Controlled Waste Manufacturing Processes.
- o January 3, 1983 PCB Amendment to Use Authorization for PCB Railroad Transformers.

Chronological Events in the Control of PCBs

1929	First commercial production Early production as coolan formers and capacitors.	t/dielectric for trans-	
1929-1975	Monsanto, only important U.S U.S. Production Export In Service (currently) Landfills and Dumps Soil, water, air, river sediments Destroyed	producer—1.4 billion lbs. 1.25 billion lbs. 150 million lbs. 750 million lbs. 290 million lbs. 150 million lbs. 150 million lbs.	
1930	Toxicity tests indicated no	effects.	
1930-1960	Expansion of open-ended applicationsincorporated into broad spectrum of products.		
1937	Toxic effects noted in occupationally exposed workers and threshold limit values imposed at manufacturing sites.		
1968	"Yusho" incident in Japan, over 1000 people poisoned by eating contaminated rice oil.		
1970	Monsanto stopped production at its Anniston, Alabama plant.		
1976	Congress enacted Toxic Substances Control Act (TSCA) on October 11, 1976. Section 6(e) addresses PCBs and its control		
1977	Monsanto stops all productionclosed plant in Sauget, Illinois.		
1978	EPA began issuing Federal PC	B rules (Title 40 Part 761).	

PCB TRANSFORMERS AND CAPACITORS LISTED BY TRADE NAME

The following are the trade names used by various manufacturers for the dielectric fluids in PCB transformers and capacitors. This information can be found on the transformer or capacitor manufacturer's nameplate.

TRADE NAME

47

MANUFACTURER

ALC R. C. Uptegraff

Apirolio Unknown Aroclor Monsanto

Aroclor B P. R. Mallory & Co. Asbestol American Corp.

ASK Queensboro Transformer and Machinery Corp.

Askarel* ESCO Mfg. Co.

Askarel* Ferranti-Packard Ltd.
Askarel* Hevi-Duty Electric

Askarel* Niagara Transformer Corp.

Askarel* Queensboro Transformer and Machinery Corp.

Askarel* Research-Cottrell
Askarel* Universal Mfg. Corp.

Capacitor 21 Monsanto

Chlorextol Allis Chalmers
Chlorinol Sprague Electric Co.
Clophen Bayer (Germany)

Clorphen Jard Corp.
Clorinol Sprague Fl

Clorinol .Sprague Electric Co.
Diaclor Sangamo Electric
DK Caffaro (Italy)
Dykanol Cornell Dubilier

EEC-18 Niagara Transformer Corp.
EEC-18 Power Zone Transformer

Elemex McGraw Edison

Eucarel Electrical Utilities Corp.

Fencior Caffaro (Italy)
Hyvol Aerovox

Inclor Caffaro (Italy)
Inerteen Westinghouse

Kanechlor Kanegafuchi Chemical Industry
Kennechlor Kanegafuchi Chemical Industry

Kennechlor Mitsubishi (Japan) Magvar General Electric

MCS 1489 Monsanto Nepolin Unknown

Non-Flammable Liquid ITE Circuit Breaker Co.

No-Flamol Wagner

Phenoclor Prodelec (France)

Pydraul*** Monsanto

Pyralene Prodelec (France)
Pyranol General Electric

Pyroclor Monsanto

Saf-T-Kuhl Kuhlman Electric Santotherm Mitsubishi (Japan)

Santotherm FR Monsanto
Santovac 1 and 2 Monsanto
Therminol** Monsanto

^{*}Generic name used for non-flammable insulating liquids in transformers and capacitors.

^{**}Various products used as heat transfer fluids, such as Therminol FR-0, were manufactured under this name. Note: Therminol 66 is a non-PCB fluid.

^{***}Various products used as hydraulic fluid, such as Pydraul A-200, were manufactured under this name.

PCB TRANSFORMERS AND CAPACITORS LISTED BY MANUFACTURER

The following are the trade names used by various manufacturers for the dielectric fluids in PCB transformers and capacitors. This information can be found on the transformer or capacitor manufacturer's nameplate.

MANUFACTURER TRADE NAME

Aerovox Hyvol Allis-Chalmers Chlorextol American Corp. Asbesto1

Bayer Clophen

Caffaro Dk, Fenclor, Inclor

Capacitor Specialists Chemko

Axel Electronics

Van Tran Electric

Cornell Dubilier Dykano1

Dings Co.

Electrical Utilities Corp. Eucare1 Electro Engineering Works

Electromagnetic Filter Co. Envirotech Buell Eriez Magnets Pyrano1

ESCO Mfg. Co. Askarel* Ferranti-Packard Ltd. Askarel*

General Electric Pyranol, Magvar

Geneva Industries

H. K. Porter Helena Corp.

Hevi-Duty Electric Askarel* ITE Circuit Breaker Non-Flammable Liquid

Jard Corp. Clorphen Kanegafuchi Kennechlor, Kanechlor

Kuhlman Electric Saf-T-Kuhl

McGraw Edison Elemex Maloney Electric

Mitsubishi Kennechlor, Santotherm Monsanto Aroclor, Capacitor 21, MCS 1489, Santotherm FR, Pyroclor, Therminol**

Diaclor

Pydraul***, Santovac 1 and 2 Myron Zucker

Niagara Transformer Corp. Askare1*, EEC-18, N-3

P. R. Mallory & Co. Aroclor B Power Zone Transformer EEC-18 Prodelec

Phenoclor, Pyralene Queensboro Transformer and Machinery Corp.

Askarel*, ASK R. C. Uptegraff ALC R. F. Interonics

Reliance Electric Co. Research-Cottrell Askarel* Sangamo Electric

Sovol

Sprague Electric Co. Chlorinol

Standard Transformer Corp. Stens Magnetics

Tobe Deutschmann Labs. Universal Mfg. Corp. Askare1*

Versatex Wagner Electric No-Flamo1

Westinghouse Electric Inerteen York Electronics

Unknown Nepolin, Apirolio **** See reverse side

USES OF PCB CLASSIFIED TO GRADE OF AROCLOR

USES	AROCLOR	1221	1232	1016	1242-	1248	1254	1260	1262	1268
CAPACITORS										
TRANSFORMERS										
VACUUM PUMPS										
GAS COMPRESSORS								_		
HYDRAULIC FLUID										
PLASTICIZER IN SYNTHETIC RESINS										
ADHESIVES										
PLASTICIZER IN RUBBERS										
HEAT TRANSFER										
WAX EXTENDERS										
DEDUSTING AGENTS										
PESTICIDE EXTENDE INKS, CUTTING OIL ETC.					_					
CARBONLESS COPY PAPER										
ZCL		20.5 21.5	31.5 32.5	41	42	48	54	60	61.5	68

SOURCE: "The Chemistry of PCBs", Hutzinger et. al., 1974

^{**}Applications are in black

COMPANY	ADDRESS	PHONE
Chemical (Continued)		
Transformer Consultants	P.O. Box 3575 Akron, OH	(216) 929-2847
Capacitor Disposal		
Chem Waste Management	912 Scott Kansas City, KS 66105	(816) 842–3825
SED, Inc.	Box 1306 Waukesha, WI	(414) 784-3740
	Facility Location: Greensboro, NC	
Rose Chemicals	2459 Charlotte Street Kansas City, MO	(816) 471-7227
Associated		
Westinghouse Electric Company	P.O. Box 341 Bloomington, IN 47402	(812) 332-4421 Tad Wells

COMPANY

ADDDECC

PHONE

NOTE: Westinghouse will dispose of old PCB capacitors at Ensco or Rollins when new capacitors are purchased from them and under certain conditions

** This list may not be complete. Some sites were under review for approval when this list was compiled 2/84. The appropriate EPA offices or the Industry Assistance Office should be contacted to determine the status of pending approvals and details of approvals. (Industry Assistance Office's Toll-Free Number 800-424-9065).

The Industry Assistance Office can also supply information relating to TSCA including regulations, Q & A on PCBs, EPA policies, etc.

For further information regarding State regulations on PCBs, contact the PCB Unit, Michigan Department of Natural Resources, P.O. Box 30028, Lansing, MI 48909, 517-373-2730.

DISPOSAL COMPANIES* (Except Landfills)

COMPANY	ADDRESS	PHONE
Incinerator		
Energy Systems Inc. (ENSCO)	1015 S. Louisiana Street Little Rock, AR 72202	(501) 375-8444 Charles Robertson
	Facility Location: El Dorado, Arkansas	
General Electric Company	100 Woodlawn Avenue Pittsfield, MA 01201	(413) 494-3774 Benjamin Pratt
Pyrotech Systems (ENSCO) (Mobile)	P.O. Box K White Bluff, TN 37187	(615) 383-1691 John Lanier
Rollins Environmental Services (N.J.) Inc.	Marketing and Services P.O. Box 221 Bridgeport, NJ 08014	(609) 467-3105 Brian Cooper
(Eastern States including Michigan)	Facility Location: Deer Park, Texas	
SCA Chemical Services, Inc.	11700 S. Stoney Island Chicago, IL 60617	(312) 646-5700 Banks Clark
Vulcanus	Chem Waste Mgt. Inc. 3003 Butterfield Road Oak Brook, IL 60521	(312) 654-8800
Chemical		
Acurex	485 Clyde Avenue Mountain View, CA 94042	(415) 964–3200
Dowzer Electric	P.O. Box 829 Mt. Vernon, IL 62864	(618) 242-0190 Tcm Feeney
General Electric	1 River Road Schenectady, NY 12345	(518) 385–3134
PCB Destruction	304 N. Baltimore Kansas City, MO 64116	(816) 474-1661
PCB Inc.	2100 Wyandotte Kansas City, MO 64108	(816) 221-3660
PPM	10 Central Avenue Kansas City, KS	(913) 621-4206
Rose Chemical	2459 Charlotte Street Kansas City, MO 64108	(816) 471-7227
Sunohio Inc.	1700 Gateway Blvd., S.E. Canton, OH 44707	(216) 452-0837

COMMERCIAL LANDFILLS APPROVED FOR PCB DISPOSAL

Section 6(e) requires EPA to control the manufacturing, processing, distribution in commerce and use of polychlorinated biphenyls (PCBs). Under the PCB rule, disposal of many PCBs, as defined in the rule, is prohibited, except at EPA approved facilities. Liquid PCBs in concentrations above 500 ppm may not be landfilled. The landfill information listed below was recently supplied to EPA by the named companies. EPA does not accept responsibility for the accuracy of the information. For the latest information on these facilities, call the EPA regional contacts given below.

.Drained transformers

STATE	CORPORATE INFORMATION	EPA CONTACT	& containers .Contaminated soil, dirt rags and other debris .Dredge soil and munici- pal sludges .Contaminated asphalt	Liquid PCBs 50-500 ppm
Alabama ; !	(Site Location) Chemical Waste Mgmt. Alabama Inc. Box 55 Emelle, AL 35459 (205) 652-9531	Ralph Jennings (404) 257-3864	x	x
	(Sales Office) Chemical Waste Mgmt. Marietta, GA 30061 Box 3065 (404) 952-0444 ATTN: Al McCoy	·		:
California	(Site Location) Casmalia Resources Casma NTU Rd. Casmalia, CA (805) 937-8449	Raymond Seid (415) 974-8389	x	
1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	(Site mailing address) Box E, Casmalia, CA 93429			•
	(Corporate Headquarters) Casmalia Resources 559 Sam Ysidro Rd.) Santa Barbara, CA 93108 (805) 969-5897 ATTN: Jim McBride			
	(Site Location) Chemical Waste Mgmt., Inc. Box 157, Kettleman City, CA 93239 (209) 386-9711 (Sales Office) Box 1104 Coalinga, CA-93210 (209) 386-9711 ATTN: Craig McKenzie/ Mark Langowski	·	x	
Idaho	Envirosafe Services, Inc. of Idaho Box 936, Nt. Home, ID 83647 (208) 587~8434 ATTN: Dave Ralston	Roger Fuences (206) 442-1254	x	x -
Nevada	(Site Locarion) U.S. Ecology Inc. Box 578 Beatty, NV 89003 (702) 553-2203 ATTN: Steve Corpenter	Raymond Seld (415) 974-8389	. x	
	(Corporate Headquarters) U.S. Ecology Inc. 9200 Shelbyville Road Louisville, KY 40222 (502) 426-7160/300-626-5317			,

ATTN: Jackie Dickenson

Drained transformers & containers .Contaminated soil, dirt, rags and other debris .Dredge soil and munici-

STATE	CORPORATE INFORMATION	EPA CONTACT	pul sludgesContaminated_asphalt	Liquid PCBs 50-500 ppm
New York	(Site Location) CECOS International 56th St. & Niagara Falls Blvd. (716) 282-2676	John Brogard (212) 264-2631	x	
	(Corporate Headquarters) CECOS International Box 619 Niagara Falls N.Y. 14302 (716) 873-4200 ATTN: Customer Services			
New York	(Site Location) SCA Chemical Services Box 200 Model City N.Y. 14107 (716) 754-8231 ATTN: Customer Service	John Brogard (212) 264-2637	x	x
Ohio	(Site Location) CECOS International 5092 Aber Road Williamsburg, Ohio (513) 720-6114 CECOS International 4879 Spring Grove Ave.	Y.J. Kim (312) 353-1428 and W.E. Muno (312) 886-6136	x	
	Cincinnati, OH 45232 (513) 681-5731 ATTN: Customer Services			
Oregon	(Site Location) Chem-Security Systems, Inc. Star Route Arlington, OR 98712 (503) 454-2777 ATTN: Denis Sapiro	Roger Fuentes (206) 442-1254	x	x
	(Corporate Headquarters) Chem-Nuclear Systems, Inc. Box 1866 Bellevue, WA 98009 (206) 827-0711 ATTN: Roger Nelson/Alex Cook			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region V

DATE:

NOV 1 3 1931

subject: Interim PCB Cleanup Procedures

FROM:

Milt Clark

Health Effects Specialist

TO:

Karl Bremer Toxic Substances Coordinator

The Toxic Materials Branch had to deal with a number of PCB cleanup cases following spills and the rupture or leaking of PCB capacitors. In order to gather information on acceptable levels of PCBs following cleanup on October 26, I talked with Mr. Ed Burroughs of MIOSH who is heading the PCB cleanup at Binghamton, New York. At the present time no conclusions have been reached as to what PCB levels are acceptable to protect human health following decontamination, although efforts in this area are being conducted. Any level is dependent upon a number of factors including the following: (1) method utilized for taking wipe samples, (2) adequate control samples, (3) degree of human contact, (4) absorption, (5) all concentrations, (6) exposure from other sources, and (7) risk level or safety factor desired. Needless to say, this is not a simple, straightforward process.

A small number of background samples for PCBs have been taken by NIOSH. Background levels for PCBs have generally fallen in the 0.01 µg to 0.1 µg/100 cm² rarge, although some values as high as 0.5 µg/100 cm² have been found. The concentrations of PCBs found are dependent upon the method of collecting the wipe samples. Wipe samples collected following major capacitor rupture incidents indicate that with good cleanup practices residual levels of 10 µg/100 cm² can be achieved at about 50 times background levels (Mr. Ed Burroughs, NIOSH).

Based upon the above information, Mr. Burroughs and I discussed the reasonableness of using an interim method for PCB cleanup practices in order to protect buman health. From our conversation I would recommend the following until NIOSH establishes a policy: -

- (1) Limited Contact Areas (i.e., Indoor Industrial Settings):

 Cleanup of PCos should be conducted down to 100 times
 background but not exceeding 50 µg/100 cm². Cleanup down
 to 10 µg/100 cm² would be preferable. Control samples as
 well as post cleanup samples would be required. Air sampling
 following cleanup should also be a mandatory requirement to
 ensure that the OSHA TLV value for PCB of 1 µg/m³ is not
 exceeded if unprotected individuals will be present or working
 in post cleanup areas (NIOSH Criteria Document for PCBs, 1977).
- (2) <u>High Contact Areas (i.e., Including Industrial Settings, Food, Feed Schools):</u>
 Cleanup should be required down to background levels. Post-cleanup samples and air sampling would also be included. Any

food prepared on surfaces previously contaminated with PCB should be tested for PCBs before human or animal consumption is permitted. FDA has developed guidelines and limits for PCBs in various foods, feeds, and packing materials (F.R., Vol. 44, No. 127, June 29, 1979, pp. 38330-38340).

(3) Environmental Spills:

Contaminated soils should be removed until the concentrations of PCS in surface and core samples are less than twice that of background samples. The zone plot method of sampling should be utilized (TSCA Inspection Manual, March 1981).

MICHIGAN DEPARTMENT OF PUBLIC HEALTH DIVISION OF OCCUPATIONAL HEALTH

OCCUPATIONAL HEALTH GUIDE D

PCB - HANDLING AND DISPOSAL

(Polychlorinated Biphenyls)



BACKGROUND & PROPERTIES - PCB stands for Polychlorinated biphenyls and the term is used to designate a group of organic compounds which theoretically can exceed 200 in number. PCB's have been commercially produced and sold since 1929 in Europe, Japan, and the U.S. They are generally colorless liquids, have low volatility and a high degree of thermal and chemical stability, are non-flammable and have excellent electrical insulating properties. PCB's have been found as a contaminant throughout the world in the soil, water and many forms of animal life, including man, entering the environment through industrial discharges, spills and ineffective incineration. Once in the environment, PCB's are very stable resisting oxidation, hydrolysis and other chemical reactions which might downgrade their toxicity. This stability plus the preference of PCB's to deposit in fatty tissue, can result in relatively high concentrations of PCB in many species.

PCB's toxic effects on man are not thoroughly understood but these materials are recognized as a human health hazard by ingestion, inhalation and prolonged skin contact. Chloracne and liver injury are among the first noticed effects. In 1968, 1,000 Japanese accidentally consumed from 0.5 to 2 grams of PCB through contaminated food resulting in eye discharge, skin and nail pigmentation, abdominal pain, weakness and itching. Laboratory research has indicated that some cancer related diseases can be induced in rats through very high exposures to PCB's. Current limits for employee exposure plus material handling controls, if fully implemented, are considered adequate for the protection of employees involved with the permitted uses and disposal of PCB materials.

INDUSTRIAL APPLICATIONS - The properties of PCB's have favored them for a variety of uses in the past. Current laws have banned the use of PCB's in any but totally enclosed systems and the manufacture and distribution is prohibited after May, 1979. No PCB's are produced in the U.S. and only a limited amount is imported for dielectric/cooling fluids for transformers and capacitors. Past applications of PCB materials include the following, but now are very limited potential sources of exposure and contamination.

- Heat Transfer fluids
- Hydraulic fluids
- Cutting lubricants

- Die and mold lubricants
- Vacuum pump oil
- Investment casting wax
- Plasticizers: (added to plastics to alter characteristics) have been used in paints, lacquers, varnishes, textile coatings, adhesives, sealants, inks, copying paper, rubber products and fire retardants

EMPLOYEE EXPOSURE CONTROL AND PROTECTION GUIDELINES - Occupational Health standards (both federal and state) prescribe maximum allowable concentration (MAC) values for PCB exposure to workers as follows:

Chlorodiphenyl containing 42% chlorine 1.0 mg/m^3 Chlorodiphenyl containing 54% chlorine 0.5 mg/m^3

Values given are average airborne concentration in milligrams of PCB per cubic meter of air time-weighted over an eight-hour work period. Since PCB's can be absorbed through the skin, no direct skin contact should be allowed. Employers and employees should observe the following guidelines to prevent or minimize exposure to PCB's:

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- 1. All employees with a potential for PCB exposure must be informed of hazards and trained in proper procedures for handling and disposal. Allow only authorized personnel in areas with a potential for PCB exposure.
- 2. Employees must wear appropriate eye protection -- goggles, safety glasses with side shields or full face shields. If PCB material contacts the eyes, they shall be flushed immediately with large quantities of water and examined by medical personnel as soon as possible.
- 3. Employees must wear protective gloves, boots, aprons or other suitable garments which will prevent skin contact with PCB's. Wet or contaminated non-impervious clothing should be removed promptly and the skin immediately washed with soap and water.
- 4. Airborne concentrations of PCB shall be controlled so as not to exceed the given MAC values by suitable engineering controls (ventilation, isolations, etc.)
- 5. For non-routine or emergency activities when airborne concentrations may exceed the permissible limit, approved respirators of the self-contained or supplied-air type must be used.

ENVIRONMENT PROTECTION GUIDELINES - Title 40 CFR, Part 761 (May 31, 1979 Federal Register, pp. 31514-31568), issued by the U.S. EPA by authority of PL 94-469, Toxic Substance Control Act sets forth specific and strict regulations on the manufacture, processing, distribution an commerce, use, handling, labeling, and disposal of PCB's and PCB contaminated materials. These rules are summarized as follows:

- 1. Spills of PCB's must be contained to avoid contamination of a water system (sewer, stream, groundwater, lake, etc.).
- 2. Leaking containers, capacitors, etc., must be placed in properly labeled leakproof containers for transport and subsequent disposal.
- 3. Contaminated clothing, rags, scrap, soil, liquids, etc., must be placed in leak-proof containers for disposal.
- 4. All containers of PCB's and PCB containing wastes must be properly labeled.
- 5. Disposal of PCB material shall be accomplished only at U.S. EPA approved facilities. pecific disposal instructions should be obtained from the DNR and the U.S. EPA.
- 6. Use of PCB is generally restricted to capacitors and transformers.

Note: This publication is intended for the benefit of the public and does not contain all pertinent information on hazards and handling of PCB materials. For further and/or specific information and instructions, contact one of the following:

FOR OCCUPATIONAL HEALTH RELATED MATTERS:

FOR ENVIRONMENTAL PROTECTION RELATED MATTERS:

Department of Natural Resources
Hazardous Waste Division ...
P.O. Box 30028
Lansing, MI 48909

(517) 3732508---

JUN 28 1983

EBB BIGHT STATE

U.S. Environmental Protection Agency Region V - Office of Toxic Substances 230 South Dearborn Chicago, IL 60604

(312) 353-2291

Summary of toxicology

Chlorodiphenyl (54% chlorine) vapor is toxic to the liver. Rats exposed to 5.4 mg/m3 for 7 hours daily for 4 months showed increased liver weight and injury to the liver cells; 1.5 mg/m³ for 7 months also produced histopathologic evidence of liver damage, which was considered to be of a reversible character. The vapor and the liquid are moderately irritating to the eye; contact with skin leads to removal of natural fats and oils with subsequent drying and cracking of the skin. Acne-form dermatitis (chloracne) due to exposure to chlorodiphenyl of 54% chlorine content has been reported but the period of exposure was not indicated. The production of liver tumors and adverse reproductive effects has been demonstrated in experimental animals following ingestion of polychlorinated biphenyls. The relevance to humans of some of these studies has not yet been established.

CHEMICAL AND PHYSICAL PROPERTIES

- · Physical data
 - 1. Molecular weight: 326 (approximately)
- 2. Roiling point (760 mm Hg): 365 390 C (689 734 F)
 - 3. Specific gravity (water = 1): 1.5
- 4. Yapor density (air = 1 at boiling point of chloro-diphenyl (54% chlorine)): 11.2
 - 5. Melting point: 10 C (50 F) (pour point)
 - 6. Vapor pressure at 20 C (68 F): 0.00006 mm Hg
- 7. Solubility in water, g/100 g water at 20 C (68 F): Insoluble
- 8. Evaporation rate (butyl acetate = 1): Much less than 1
- · Reactivity
 - 1. Conditions contributing to instability: Heat
- 2. Incompatibilities: Contact with strong oxidizers may cause fires and explosions.
- 3. Hazardous decomposition products: Toxic gases 2.0 1,000 (such as hydrogen chloride and carbon ababaide) may be released in a fire involving chlorodiphenyl (54% chlorine).
- 4. Special precautions: Chlorodiphenyl (54% chlorine) will attack some forms of plastics, rubber, and coatings.
- · Flammability
 - 1. Flash point: 222 C (432 F)
 - 2. Autoignition temperature: None to boiling point
- 3. Flammabie limits in air, % by volume: Not available
- 4. Extinguishant: Foam, dry chemical, carbon diox-

· Wurling properties

Authough chlorodiphenyl (54% chlorine) has a typical aromatic odor and causes eye irritation, this substance is treated as a material with poor warning properties, as no quantitative information is available concerning its open and irritation thresholds. The AIHA Hygienic Galage states that the vapors of the chlorodiphenyls are

"moderately irritating to eye tissues," but the concentrations which cause irritation are not stated.

MONITORING AND MEASUREMENT PROCEDURES

• General

Measurements to determine employee exposure are best taken so that the average eight-hour exposure is based on a single eight-hour sample or on two four-hour samples. Several short-time interval samples (up to 30 minutes) may also be used to determine the average exposure level. Air samples should be taken in the employee's breathing zone (air that would most nearly represent that inhaled by the employee).

Method

Sampling and analyses may be performed by collection of chlorodiphenyl on a filter with subsequent extraction with petroleum ether and gas chromatographic analysis. An analytical method for chlorodiphenyl (54% chlorine) is in the NIOSH Manual of Analytical Methods, 2nd Ed., Vol. 2, 1977, available from the Government Printing Office, Washington, D.C. 20402 (GPO No. 017-033-00260-6).

RESPIRATORS

- Good industrial hygiene practices recommend that engineering controls be used to reduce environmental concentrations to the permissible exposure level. However, there are some exceptions where respirators may be used to control exposure. Respirators may be used when engineering and work practice controls are not technically feasible, when such controls are in the process of being installed, or when they fail and need to be supplemented. Respirators may also be used for operations which require entry into tanks or closed vessels, and in emergency situations. If the use of respirators is necessary, the only respirators permitted are those that have been approved by the Mine Safety and Health Administration (formerly Mining Enforcement and Safety Administration) or by the National Institute for Occupational Safety and Health.
- In addition to respirator selection, a complete respiratory protection program should be instituted which includes regular training, maintenance, inspection, cleaning, and evaluation.

PERSONAL PROTECTIVE EQUIPMENT

- Employees should be provided with and required to use impervious clothing, gloves, face shields (eight-inch minimum), and other appropriate protective clothing necessary to prevent any possibility of skin contact with liquid chlorodiphenyl (54% chlorine).
- Clothing contaminated with liquid chlorodiphenyl (54% chlorine) should be placed in closed containers for storage until it can be discarded or until provision is

Occupational Health Guideline for Chlorodiphenyl (54% Chlorine)*

INTRODUCTION

This guideline is intended as a source of information for employees, employers, physicians, industrial hygienists, and other occupational health professionals who may have a need for such information. It does not attempt to present all data; rather, it presents pertinent information and data in summary form.

SUBSTANCE IDENTIFICATION

- Formula: C₁₂H₅Cl₅ (approximately)
- Synonyms: Polychlorinated biphenyl; PCB
- Appearance and odor: Pale yellow viscous liquid with a mild hydrocarbon odor.

PERMISSIBLE EXPOSURE LIMIT (PEL)

The current OSHA standard for chlorodiphenyl (54% chlorine) is 0.5 milligram of chlorodiphenyl (54% chlorine) per cubic meter of air (mg/m²) averaged over an eight-hour work shift. NIOSH has recommended that the permissible exposure limit for polychlorinated biphenyls be reduced to 1.0 microgram per cubic meter of air averaged over a work shift of up to 10 hours per day, 40 hours per week, and that chlorodiphenyl (54% chlorine) be regulated as an occupational carcinogen. The NIOSH Criteria Document for Polychlorinated Biphenyls should be consulted for more detailed information.

HEALTH HAZARD INFORMATION

• Routes of exposure

Chlorodiphenyl (54% chlorine) can affect the body if it is inhaled, if it comes in contact with the eyes or skin, or if it is swallowed. It may be absorbed through the skin. Every effort should be made to prevent skin, eye, oral, or inhalation contact with this material.

· Effects of overexposure

Chlorodiphenyl (54% chlorine) may cause irritation of the eyes, nose, and throat, and an acne-like skin rash. It may also injure the liver, resulting in such effects as fatigue, dark urine, and yellow jaundice. Repeated skin contact with the liquid may cause skin irritation.

· Reporting signs and symptoms

A physician should be contacted if anyone develops any signs or symptoms and suspects that they are caused by exposure to chlorodiphenyl (54% chlorine). The production of liver tumors and adverse reproductive effects have been demonstrated in experimental animals following ingestion of polychlorinated biphenyls. The relevance to humans of some of these studies has not yet been established.

· Recommended medical surveillance

The following medical procedures should be made available to each employee who is exposed to chlorodiphenyl (54% chlorine) at potentially hazardous levels:

1. Initial Medical Examination:

- —A complete history and physical examination: The purpose is to detect pre-existing conditions that might place the exposed employee at increased risk, and to establish a baseline for future health monitoring. Examination of the liver and skin should be stressed. Women in the work force should be advised of the potential adverse effects of chlorodiphenyl (54% chlorine) on the unborn child. Those who have borne children and work with chlorodiphenyl (54% chlorine) should be counseled concerning the advisability of nursing their offspring.
- —Liver function tests: Chlorodiphenyl (54% chlorine) may cause liver damage. A profile of liver function should be obtained by utilizing a medically acceptable array of biochemics: tests.
- —Skin disease: Chlorodiphenyl (54% chlorine) is a defatting agent and can cause dermatitis on prolonged exposure. Persons with pre-existing skin disorders may be more susceptible to the effects of this agent.
- 2. Periodic Medical Examination: The aforementioned medical examinations should be repeated on an annual basis.

These recommendations reflect good industrial hygiene and medical surveillance practices and their implementation will assist in achieving an effective occupational health program. However, they may not be sufficient to achieve compliance with all requirements of OSHA regulations.

". Use as a pressura acheaive for sign backings, insect traps, and tapas

Use in compounding mastics, and sealing and caulking materials; use in compounding of panting inks

General dilution ventilation; local exhaust ventilation; personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

EMERGENCY FIRST AID PROCEDURES

In the event of an emergency, institute first aid procedures and send for first aid or medical assistance.

· Eye Exposure

If chlorodiphenyl (54% chlorne) gets into the eyes, wash eyes immediately with large amounts of water, lifting the lower and upper lids occasionally. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

· Skin Exposure

If chlorodiphenyl (54% chlorine) gets on the skin, immediately wash the contaminated skin using soap or mild detergent and water. If chlorodiphenyl (54% chlorine) soaks through the clothing, remove the clothing promptly and wash the skin using soap or mild detergent and water. If irritation persists after washing, get medical attention.

· Breathing

If a person breathes in large amounts of chlorodiphenyl (54% chlorine), move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get menical attention as soon as possible.

· Cr : ming

when chlorodiphenyl (54% chlorine) has been swallowed, get medical attention immediately. If medical attention is not immediately available, get the afflicted person to vomit by having him touch the back of his throat with his finger or by giving him syrup of ipecac as directed on the package. This non-prescription drug is available at most drug stores and drug counters and should be kept with emergency medical supplies in the workplace. Do -c- make an unconscious person vomit.

Hove the affected person from the hazardous exposure. If the exposed person has been overcome, notify someone else and put into effect the established emergency rescue procedures. Do not become a casualty. Understand the facility's emergency rescue procedures and know the locations of rescue equipment before the need arises.

SPILL, LEAK, AND DISPOSAL PROCEDURES

- · Persons not wearing protective equipment and clothing should be restricted from areas of spills or leaks until cleanup has been completed.
- If chlorodiphenyl (54% chlorine) is spilled or leaked, the following steps should be taken:
- 1. Remove all ignition sources.
- 2. Ventilate area of spill or leak.
- 3. Collect for reclamation or absorb in vermiculite, dry sand, earth, or a similar material.
- Waste disposal method:

Chlorodiphenyl (54% chlorine) may be disposed of by absorbing it in vermiculite, dry sand, earth or a similar material and disposing in a secured sanitary landfill.

ADDITIONAL INFORMATION

To find additional information on chlorodiphenyl (54% chlorine), look up chlorodiphenyl (54% chlorine) in the following documents:

- Medical Surveillance from the SCP
- Respiratory Protection from the SCP
- Personal Protection and Sanitation from the SCP
- NIOSH Criteria Document for Polychlorinated Biphenyls (September 1977)

These documents are available through the NIOSH Division of Technical Services, 4676 Columbia Parkway, Cincinnati, Ohio 45226.

REFERENCES

- · American Conference of Governmental Industrial Hygienists: "Chlorodiphenyl (54% Chlorine)," Documentation of the Threshold Limit Yalues for Substances in Workroom Air (3rd ed., 2nd printing), Cincinnati, 1974.
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- Olivier, N: "Chloracne," Archives of Dermatology, 99. 127-123, 1969.
- · Patty, F. A. (ed.) Toxicology, Vol. II of Industrial Hygiene and Toxicology (2nd ed. rev.), Interscience, New York, 1963

imade for the removal of chlorodiphenyl (54% chlorine) from the clothing. If the clothing is to be laundered or otherwise cleaned to remove the chlorodiphenyl (54% chlorine), the person performing the operation should be informed of chlorodiphenyl's (54% chlorine) hazardous properties.

- Non-impervious clothing which becomes contaminated with liquid chlorodiphenyl (54% chlorine) should be removed promptly and not reworn until the chlorodiphenyl (54% chlorine) is removed from the clothing.
- Employees should be provided with and required to use splash-proof safety goggles where liquid chlorodiphenyl (54% chlorine) may contact the eyes.

SANITATION

- Skin that becomes contaminated with liquid chlorodiphenyl (54% chlorine) should be promptly washed or showered with soap or mild detergent and water to remove any chlorodiphenyl (54% chlorine).
- Eating and smoking should not be permitted in areas where liquid chlorodiphenyl (54% chlorine) is handled, processed, or stored.
- Employees who handle liquid chlorodiphenyl (54% chlorine) should wash their hands thoroughly with soap or mild detergent and water before eating, smoking, or using toilet facilities.
- Areas in which exposure to chlorodiphenyl (54% chlorine) may occur should be identified by signs or other appropriate means, and access to these areas should be limited to authorized persons.

COMMON OPERATIONS AND CONTROLS

The following list includes some common operations in which exposure to chlorodiphenyl (34% chlorine) may occur and control methods which may be effective in each case:

Operation

Use as hightemperature transfer medium in chemical/ food processing vessels and drying ovens

Use as a dielectric in manufacture of transformers, capacitors, resistors, and other electrical apparatus

Controls

General dilution ventilation; local exhaust ventilation; personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

Operation

Application and formulation as plasticizer, flameretardant, and adhesive and weatherizer in spray surface coatings: manufacture and application of impregnants for cloth, paper, fiberboard, wood, and asbestos; manufacture and application of natural and synthetic waxes and polishes; manufacture and application of hot-melt and other adhesives

Use as non-flammable working fluid in vacuum pumps, hydraulic systems, and expansion systems

Use during application of high-pressure, temperature, and moisture lubricants

Use in compounding and processing of plastics for flame retardancy

Use in manufacture and application for use as pesticides and fungicides

Use as an intermediate or raw material in further organic synthesis

Use as sealer for gaskets of natural rubber and synthetics

Use as adhesive release on tapes and ink release on carbonless duplicating paper; as a pigment carrier in dyeing polyesters and paper

Controls

Process enclosure; general dilution ventilation; local exhaust ventilation; personal protective equipment

General dilution ventilation; local exhaust ventilation

Personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

Personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

General dilution ventilation; local exhaust ventilation; personal protective equipment

Personal protective equipment

Appendix B

RESPIRATOR SELECTION GUIDE

Concentration of PCBs

Respirator Type Approved under Provisions of 30 CFR 11

Greater than 1.0 µg/cu m or Emergency (entry into area of unknown concentration)

- (1) Self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.
- (2) Combination Type C supplied-air respirator with full facepiece operated in pressure-demand or other positive pressure mode and an auxiliary self-contained breathing apparatus operated in pressure demand or other positive pressure mode.

Source: USDHEW 1977.

* SPECIAL NOTE

The International Agency for Research on Cancer (IARC) has evaluated the data on this chemical and has concluded that it causes cancer. See IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man, Volume 7, 1974, and Volume 18, 1978.

RESPIRATORY PROTECTION FOR CHLORODIPHENYL (54% CHLORINE)

Condition	Minimum Respiratory Protection* Required Above 0.5 mg/m³			
Vapor Concentration				
5 mg/m³ or less	Any supplied-air respirator with a full facepiece, helmet, or hood.			
	Any self-contained breathing apparatus with a full facepiece.			
Greater than 5 mg/m³** or entry and escape from unknown concentrations	Self-contained breathing apparatus with a full facepiece operated in pressure demand or other positive pressure mode.			
	A combination respirator which includes a Type C supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure or continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.			
Fire Fighting	Salf-contained breathing apparatus with a full facepiece operated in pressure- demand or other positive pressure mode.			
Escape	Any gas mask providing protection against pesticides. Any escape self-contained breathing apparatus.			

^{*}Only NIOSH-approved or MSHA-su proved equipment should be used.

^{**}Use of supplied-air suits may be necessary to prevent skin contact while providing respiratory protection from airborne concentrations of chlorodiphenyl (54% chlonne); however, this equipment should be selected, used, and maintained under the immediate supervision of trained personnel. Where supplied-air suits are used above a concentration of 5 mg/m², an auxiliary self-contained breathing apparatus operated in positive pressure mode should also be worn.

Title 40—Protection of Environment

Subpart B—Manufacturing, Processing, Distribution in Commerce, and Use of PCBs and PCB Items

Sec.

761 20 Prohibitions.

761.30 Authorizations.

Subpart C-Marking of PCBs and PCB Items

761.40 Marking requirements.

761.45 Marking formats.

Subpart D—Storage and Disposal

761.60 Disposal requirements.

761.65 Storage for disposal

761.70 Incineration.

761.75 Chemical waste landfills.

761.79 Decontamination.

Subparts E-I---[Reserved]

Subpart J—Records and Reports

761.180 Records and Monitoring.

761.185 Certification program and retention of special records by persons generating PCBs in closed manufacturing processes and controlled waste manufacturing processes.

AUTHORITY Secs. 6, 8, and 12, Toxic Substances Control Act. 15 U.S.C. 2605, 2607, and 2611.

Source: 44 FR 31542, May 31, 1979, unless otherwise noted.

Subpart A—General

§ 761.1 Applicability.

(a) This part establishes prohibitions of, and requirements for, the manufacture, processing, distribution in commerce, use, disposal, storage, and marking of PCEs and PCB Items.

(b) This part applies to all persons who manufacture, process, distribute in commerce, use, or dispose of PCBs or PCB Items. Unitsstit is otherwise specifically provided, the terms_PCB and PCBs are used in this rule to refer to any chemical substances and combinations of substances that contain-50 ppm (on a dry weight basis) or greater of PCBs, as defined in the definition of "PCB" and "PCBs" under § 761.3, including any byproduct, intermediate, or impurity manufactured at any point in a process. Any chemical substances and combinations of substances that contain less than 50 ppm PCBs because of any dilution, shall be

REPRINTED FROM U.S. CODE OF FEDERAL

REGULATIONS

TITLE 40

(Revised as of July 1, 1984)

PART 761—POLYCHLORINATED BI-PHENYLS (PCBs) MANUFACTUR-ING, PROCESSING, DISTRIBUTION IN COMMERCE, AND USE PROHIBI-TIONS

Subpart A—General

Sec.

761.1 Applicability

761.3 Definitions.

761.19 References.

micluded as PCB and PCBs unless otherwise specifically provided. Substances that are regulated by this rule include, but are not limited to, dielectric fluids, contaminated solvents, oils, waste oils, heat transfer fluids, hydraulic fluids, paints, sludges, slurries, dredge spoils, soils, materials contaminated as a result of spills, and other chemical substances or combination of substances, including impurities and byproducts.

- (c) Definitions of the terms used in these regulations are in Subpart A. The basic requirements applicable to disposal and marking of PCBs and PCB Items are set forth in Subpart D-Disposal of PCBs and PCB Items and in Subpart C-Marking of PCBs and PCB Items. Prohibitions applicable to PCB activities are set forth in Subpart B-Manufacture. Processing, Distribution in Commerce, and Use of PCBs and PCB Items. Subpart B also includes authorizations from the prohibitions. Subparts C and D set forth the specific requirements for disposal and marking of PCBs and PCB Items.
- (d) Section 15 of the Toxic Substances Control Act (TSCA) states that failure to comply with these regulations is unlawful. Section 16 imposes liability for civil penalties upon any person who violates these regulations. and the Administrator can establish appropriate remedies for any violations subject to any limitations included in section 16 of TSCA. Section 16 also subjects a person to criminal prosecution for a violation which is knowing or willful. In addition, section 17 authorizes Federal district courts to enjoin activities prohibited by these regulations, compel the taking of actions required by these regulations. and issue orders to seize PCBs and PCB Items manufactured, processed or distributed in violation of these regulations.
- (e) These regulations do not preempt other more stringent Federal statutes and regulations.
- (f) Persons who manufacture, process distribute in commerce, or use PCBs generated as byproducts, impurities or intermediates in closed and controlled waste manufacturing processes (as defined in the definitions of "Closed manufacturing process" and

"Controlled waste manufacturing process" under § 761.3) are exempt from the requirements of Subpart B. To qualify for this exclusion, such processes must also fully comply with § 761.185.

[44 FR 31542, May 31, 1979, as amended at 47 FR 46995, Oct. 21, 1982; 49 FR 25239, June 20, 1984]

§ 761.3 Definitions.

For the purpose of this part:

"Administrator" means the Administrator of the Environmental Protection Agency, or any employee of the Agency to whom the Administrator may either herein or by order delegate his authority to carry out his functions, or any person who shall by operation of law be authorized to carry out such functions.

"Agency" means the United States Environmental Protection Agency.

"Byproduct" means a chemical substance produced without separate commercial intent during the manufacturing or processing of another chemical substance(s) or mixture(s).

"Capacitor" means a device for accumulating and holding a charge of electricity and consisting of conducting surfaces separated by a dielectric. Types of capacitors as follows:

- (1) "Small capacitor" means a capacitor which contains less than 1.36 kg (3) Ibs.) of dielectric fluid? The following assumptions may be used if the actual weight of the dielectric fluid is unknown. A capacitor whose total tvolume is less than 1,639 cubic centimeters (100 cubic inches may be considered to contain less than 1.36 kgs (3 lbs.) of dielectric fluid and a capacitor whose total volume is more than 3,278 cubic centimeters (200 cubic inches) must be considered to contain more than 1.36 kg (3 lbs.) of dielectric fluid. A capacitor whose volume is between 1,639 and 3,278 cubic centimeters may be considered to contain less then 1.36 kg (3 lbs.) of dielectric fluid if the total weight of the capacitor is less than 4.08 kg (9 lbs.).
- (2) "Large high voltage capacitor" means a capacitor which contains 1.36 kg (3 lbs.) or more of dielectric fluid and which operates at 2,000 volts (a.c. or d.c.) or above.

(3) "Earge low voltage capacitor" means a capacitor which contains 1.36 kg (3 lbs.) or more of dielectric fluid and which operates at 2,000 volts (a.c. or d.c.).

"Chemical substance", (1) except as provided in paragraph (2) of this definition, means any organic or inorganic substance of a particular molecular identity, including any combination of such substances occurring in whole or part as a result of a chemical reaction or occurring in nature, and any element or uncombined radical.

(2) Such term does not include: any mixture; any pesticide (as defined in the Federal Insecticide, Fungicide, and Rodenticide Act) when manufactured. processed, or distributed in commerce for use as a pesticide; tobacco or any tobacco product; any source material, special nuclear material, or byproduct material (as such terms are defined in the Atomic Energy Act of 1954 and regulations issued under such Act); any article the sale of which is subject to the tax imposed by section 4181 of the Internal Revenue Code of 1954 (determined without regard to any exemptions from such tax provided by section 4182 or section 4221 or any provisions of such Code); and any food, food additive, drug, cosmetic, or device (as such terms are defined in section 201 of the Federal Food, Drug. and Cosmetic Act) when manufactured, processed, or distributed in commerce for use as a food, food additive. drug, cosmetic, or device.

"Chemical waste landfill" means a landfill at which protection against risk of injury to health or the environment from migration of PCEs to land, water, or the atmosphere is provided from PCBs and PCB Items deposited therein by locating, engineering, and operating the landfill as specified in § 761.75.

"Closed manufacturing process" means a manufacturing process in which PCBs are generated but from which less than 10 micrograms per cubic meter from any resolvable gas chromatographic peak are contained in any release to air; less than 100 micrograms per liter from any resolvable gas chromatographic peak are contained in any release to water; and less than 2 micrograms per gram from any

resolvable gas chromatographic peak are contained in any product, or any process waste.

"Commerce" means trade, traffic, transportation, or other commerce:

- (1) Between a place in a State and any place outside of such State, or
- (2) Which affects trade, traffic, transportation, or commerce described in paragraph (1) of this definition.

"Controlled waste manufacturing process" means a manufacturing process in which PCBs are generated but from which less than 10 micrograms per cubic meter from any resolvable gas chromatographic peak are contained in any release to air; less than 100 micrograms per liter from any resolvable gas chromatographic peak are contained in any release to water; less than 2 micrograms per gram from any resolvable gas chromatographic peak are contained in any product, and the remainder of PCBs generated are incinerated in a qualified incinerator, land filled in a landfill approved under the provisions of § 761.75, or stored for such incineration or landfilling in accordance with the requirements of § 761.65(b)(1).

"Disposal" means intentionally or accidentally to discard, throw away, or otherwise complete or terminate the useful life of PCBs and PCB Items. Disposal includes spills, leaks, and other uncontrolled discharges of PCBs as well as actions related to containing, transporting, destroying, degrading, decontaminating, or confining PCBs and PCE Items.

"Distribute in commerce" and "Distribution in Commerce" when used to describe an action taken with respect to a chemical substance, mixture, or article containing a substance or mixture means to sell or the sale of, the substance, mixture, or article in commerce: to introduce or deliver for introduction into commerce, or the introduction or delivery for introduction into commerce of the substance, mixture, or article; or to hold or the holding of, the substance, mixture, or article after its introduction into commerce.

"Fluorescent light ballast" means a device that electrically controls fluorescent light fixtures and that includes a capacitor containing 0.1 kg or less of dielectric.

"Impurity" means a chemical substance which is unintentionally present with another chemical substance.

"Incinerator" means an engineered device using controlled flame combustion to thermally degrade PCBs and PCB Items. Examples of devices used for incineration include rotary kilns, liquid injection incinerators, cement kilns, and high temperature boilers.

"Leak" or "leaking" means any instance in which a PCB Article, PCB Container, or PCB Equipment has any PCBs on any portion of its external surface.

"Manufacture" means to produce, manufacture, or import into the customs territory of the United States.

"Manufacturing process" means all of a series of unit operations operating at a site, resulting in the production of a product.

"Mark" means the descriptive name, instructions, cautions, or other information applied to PCBs and PCB Items, or other objects subject to these regulations.

"Marked" means the marking of PCB Items and PCB storage areas and transport vehicles by means of applying a legible mark by painting, fixation of an adhesive label, or by any other method that meets the requirements of these regulations.

"Mixture" means any combination of two or more chemical substances if the combination does not occur in nature and is not, in whole or in part, the result of a chemical reaction; except that such term does include any combination which occurs, in whole or in part, as a result of a chemical reaction if none of the chemical substances comprising the combination is a new chemical substance and if the combination could have been manufactured for commercial purposes without a chemical reaction at the time the chemical substances comprising the combination were combined.

"Municipal solid wastes" means garbage, refuse, sludges, wastes, and other discarded materials resulting from residential and non-industrial operations and activities, such as household activities, office functions, and commercial housekeeping wastes.

"PCB" and "PCBs" mean any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance. (See § 761.1(b) Applicability for applicable concentrations of PCBs). PCB and PCBs as contained in PCB Items are defined in this section.

"PCB Article" means any manufactured article, other than a PCB Container, that contains PCBs and whose surface(s) has been in direct contact with PCBs. "PCB Article" includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured item (1) which is formed to a specific shape or design during manufacture, (2) which has end use function(s) dependent in whole or in part upon its shape or design during end use, and (3) which has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the PCB Article.

"PCB Article Container" means any package, can, bottle, bag, barrel, drum, tank, or other device used to contain PCB Articles or PCB Equipment, and whose surface(s) has not been in direct contact with PCBs.

"PCB Container" means any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB Articles and whose surface(s) has been in direct contact with PCBs.

"PCB Equipment" means any manufactured item, other than a PCB Container or a PCB Article Container, which contains a PCB Article or other PCB Equipment, and includes microwave ovens, electronic equipment, and fluorescent light ballasts and fixtures.

"PCB Item" is defined as any PCB Article, PCB Article Container, PCB Container, or PCB Equipment, that deliberately or unintentionally contains or has as a part of it any PCB or PCBs at a concentration of 50 ppm or greater.

"PCB Transformer" means any transformer that contains 500 ppm PCB or greater.

"PCB-Contaminated Electrical Equipment" means any electrical equipment, including but not limited to transformers (including those used in railway locomotives and self-propelled cars), capacitors, circuit breakers, reclosers, voltage regulators. switches (including sectionalizers and motor starters), electromagnets, and cable, that contain 50 ppm or greater PCB, but less than 500 ppm PCB. Oilfilled electrical equipment other than circuit breakers, reclosers, and cable whose PCB concentration is unknown must be assumed to be PCB-Contaminated Electrical Equipment. (See §761.30 (a) and (h) for provisions permitting reclassification of electrical equipment containing 500 ppm or greater PCBs to PCB-Contaminated Electrical Equipment).

"Person" means any natural or judicial person including any individual corporation, partnership, or association; any State or political subdivision thereof; any interstate body; and any department, agency, or instrumentality of the Federal Government.

"Posing an exposure risk to food or feed" means being in any location where human food or animal feed products could be exposed to PCBs released from a PCB Item. A PCB Item poses an exposure risk to food or feed if PCBs released in any way from the PCB Item have a potential pathway to human food or animal feed. EPA considers human food or animal feed to include items regulated by the U.S. Department of Agriculture or the Food and Drug Administration as human food or animal feed; this includes direct additives. Food or feed is excluded from this definition if it is used or stored in private homes.

"Process" means the preparation of a chemical substance or mixture, after its manufacture, for distribution in commerce:

- (1) In the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance or mixture, or
- (2) As part of an article containing the chemical substance or mixture.

"Qualified incinerator" means one of the following:

- (1) An incinerator approved under the provisions of §761.70. Any concentration of PCBs can be destroyed in an incinerator approved under §761.70.
- (2) A high efficiency boiler approved under the provisions of § 761.60(a)(3). Only PCEs in concentrations below 500 ppm can be destroyed in a high-efficiency boiler approved under §761.60(a)(3).
- (3) An incinerator approved under section 3005(c) of the Resource Conservation and Recovery Act (42 U.S.C. 6925(c)) (RCRA). Only PCBs in concentrations below 50 ppm can be destroyed in a RCRA-approved incinerator. The manufacturer seeking to qualify a process as a controlled waste process by disposing of wastes in a RCRA-approved incinerator make a determination that the incinerator is capable of destroying less readily burned compounds than the PCB homologs to be destroyed. The manufacturer may use the same guidance used by EPA in making such a determination when issuing an approval under section 3005(c) of RCRA. The manufacturer is also responsible for obtaining a reasonable assurance that the incinerator, when burning PCB wastes, will be operated under conditions which have been shown to enable the incinerator to destroy the less readily burned compounds.

"Sale for purposes other than resale" means sale of PCBs for purposes of disposal and for purposes of use, except where use involves sale for distribution in commerce. PCB Equipment which a first leased for purposes of use any time before July 1, 1979, will be considered sold for purposes other than resale.

"Significant exposure" means any exposure of human beings or the environment to PCEs as measured or detected by any scientifically acceptable analytical method.

"Small quantities for research and development" means any quantity of PCBs (1) that is originally packaged in one or more hermetically sealed containers of a volume of no more than five (5.0) milliliters, and (2) that is used only for purposes of scientific experimentation or analysis, or chemical research on, or analysis of, PCBs, but

not for research or analysis for the development of a PCB product.

"Storage for disposal" means temporary storage of PCBs that have been designated for disposal.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (e.g., trailer, railroad freight car) is a separate transport vehicle.

"Totally enclosed manner" means any manner exposure of ronment to will be insign urable or de cally accepta

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Subpart B—Manufacturing, Processing, Distribution in Commerce, and Use of PC3s and PCS Items

§ 761.20 Prohibitions.

Except as authorized in § 761.30 the activities listed in paragraphs (a) and (d) of this section are prohibited pursuant to section 6(e)(2) of TSCA. The requirements set forth in paragraphs (b) and (c) of this section concerning export and import of PCBs for purposes of disposal and PCB Items for purposes of disposal are established pursuant to section 6(e)(1) of TSCA. Subject to any exemptions granted pursuant to section 6(e)(3)(B) of TSCA, the activities listed in paragraphs (b) and (c) of this section are prohibited pursuant to section 6(e)(3)(A) of TSCA. In addition, the Administrator hereby finds, under the authority of section 12(a)(2) of TSCA, that the manufacture, processing, and distribution in commerce of PCBs and PCB Items for export from the United States presents an unreasonable risk of injury to health within the United States. This finding is based upon the well-documented human health and environmental hazard of PCB exposure; the high probability of human and environmental exposure to PCBs and PCB Items from manufacturing. processing, or distribution activities: the potential hazard of PCB exposure posed by the transportation of PCBs or PCB Items within the United States; and the evidence that contamination of the environment by PCBs is spread far beyond the areas where they are used. In addition, the Administrator hereby finds that any exposure of human beings or the environment to PCBs as measured or detected by any scientifically acceptable analytical method is a significant exposure. as defined in the definition of "Significant exposure" under § 761.3. The definition of "Totally enclosed manner" under § 761.3 and TSCA section 6(e)(2)(C) define the term totally ention except that: closed manner as "any manner which will ensure that any exposure of human beings or the environment to a polychlorinated biphenyl will be insignificant * * *." Since any exposure to _ that date; PCBs is found to be a significant exposure, a totally enclosed manner is a

manner that results in no exposure of humans or the environment to PCBs. The following activities are considered totally enclosed: distribution in commerce of intact, nonleaking electrical equipment such as transformers (including transformers used in railway locomotives and self-propelled cars), capacitors, electromagnets. voltage regulators, switches (including sectionalizers and motor starters), circuit breakers, reclosers, and cable that contain PCBs at any concentration and processing and distribution in commerce of PCB Equipment containing an intact, nonleaking PCB Capacitor. See paragraph (c) (1) of this section for provisions allowing the distribution in commerce of PCBs and PCB Items.

- (a) No person may process, distribute in commerce, or use any PCB or PCB Item in any manner other than in a totally enclosed manner within the United States or export any such PCB or PCB Item from the United States unless authorized under § 761.30 of this subpart. Paragraph (a) of this section is superseded by paragraph (c) for processing and distribution in commerce of PCBs and PCB Items on the dates when that section becomes effective.
- (b) No person may manufacture PCBs for use within the United States or manufacture PCBs for export from the United States without an exemption except that:
- (1) PCBs or PCB Items may be imported for purposes of disposal until May 1, 1980, provided that the disposal is in accordance with § 761.60; and
- (2) PCBs or PCE Lems may be exported for disposal until May 1, 1980, in accordance with the requirements of paragraph (c)(3) of this section.
- (c) Effective July 1, 1979, no person may process or distribute in commerce any PCB or PCB Item for use within the United States or for export from the United States without an exemption except that:
- (1) PCBs or PCB Items sold before July 1, 1979, for purposes other than resale may be distributed in commerce only in a totally enclosed manner after that date;
- (2) PCBs or PCB Items may be processed and distributed in commerce in

compliance with the requirements of this part for purposes of disposal in accordance with the requirements of § 761.60;

- (3) PCBs or PCB Items may be exported for disposal until May 1, 1980, , if an export notice is submitted at least thirty (30) days before the first shipment in any calendar year leaves the customs territory of the United States. Export notices must be submitted to the Document Control Officer (TS-793), Office of Toxic Substances, Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. The generator of the PCB waste material intended for disposal, or an agent acting on his behalf, must certify to the best of his knowledge and belief that the information is complete and accurate. Each notice should contain the following information:
 - (i) Name, company name, address, and telephone number of the owner of the PCB waste material to be exported and the name and address of any person or agent acting on his behalf:
 - (ii) Estimated quantity of wastes to be shipped during the calendar year and the estimated number of shipments to be made and the dates when such shipments are expected to leave the customs territory of the United States:
 - (iii) Description of the PCBs or PCB Items being exported;
 - (iv) Country(s) of destination for the shipments;
 - (v) Name and address of facility(s) receiving the shipment and person(s) responsible for receiving the shipment(s).
 - (vi) Method(s) of disposal and precautions taken to control release into the environment.
 - (vii) No less than 30 days after the end of each calendar quarter (March 31, June 30, September 30, and December 31) during which PCBs were experted for disposal, each person exporting the PCBs must submit a report to the Document Control Officer (TS-793), Office of Toxic Substances, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. The report shall list the quantity of PCB wastes in each shipment made during the

quarter and include the date when each shipment left the customs territory of the United States and the information specified in paragraphs (c)(3)(i) and 'iii) through (vi) of this section. If the quantity of wastes shipped during the calendar year exceeds by 25 percent or more the estimated quantities reported in paragraph (c)(3)(ii) of this section, a special export notice must be submitted to the Document Control Officer (TS-793) at the address given in paragraph (c)(3) at least 30 days before any additional shipments leave the customs territory of the United States and the notice shall include the information specified in paragraphs (c)(3) (i) through (vi) of this section.

(viii) Any person expecting to export PCB wastes for disposal in calendar year 1980 must submit an export notice at least thirty (30) days before the first shipment leaves the customs territory of the United States to the Document Control Officer (TS-793) at the address given in paragraph (c)(3) of this section, and the notice shall contain the information listed in paragraphs (c)(3) (i) through (vi) of this section.

(d) The use of waste oil that contains any detectable concentration of PCB as a sealant, coating, or dust control agent is prohibited. Prohibited uses include, but are not limited to, road oiling, general dust control, use as a pesticide or herbicide carrier, and use as a rust preventative on pipes.

[44 FR 31542, May 31, 1979, Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37356, Aug. 25, 1982; 49 FR 25241, June 20, 1984]

§ 761.30 Authorizations.

The following non-totally enclosed PCB activities are authorized pursuant to section 6(e)(2)(B) of TSCA:

(a) Use in and servicing of transformers (other than railroad transformers). PCBs at any concentration may be used in transformers (other than transformers for railroad locomotives and self-propelled railroad cars) and may be used for purposes of servicing including rebuilding these transformers for the remainder of their

useful lives, subject to the following conditions:

- (1) Use conditions. (i) After October 1, 1985, the use and storage for reuse of PCB Transformers that pose an exposure risk to food or feed is prohibited.
- (ii) A visual inspection of each PCB Transformer (as defined in the definition of "PCB Transformer" ' under § 761.3) in use or stored for reuse shall be performed at least once every three months. These inspections may take place any time during the three month periods; January-March, April-June, July-September, and October-December as long as there is a minimum of 30 days between inspections. The visual inspection must include investigation for any leak of dielectric fluid on or around the transformer. The extent of the visual inspections will depend on the physical constraints of each transformer installation and should not require an electrical shutdown of the transformer being inspected.
- (iii) If a PCB Transformer is found to have a leak which results in any quantity of PCBs running off or about to run off the external surface of the transformer, then the transformer must be repaired or replaced to eliminate the source of the leak. In all cases any leaking material must be cleaned up and properly disposed of according to disposal requirements of § 761.60. Cleanup of the released PCBs must be initiated as soon as possible. but in no case later than 48 hours of its discovery. Until appropriate action is completed, any active leak of PCBs must be contained to prevent exposure of humans or the environment and inspected daily to verify containment of the leak. Trenches, dikes, buckets, and pans are examples of proper containment measures.
- (iv) Records of inspection and maintenance history shall be maintained at least 3 years after disposing of the transformer and shall be made available for inspection, upon request, by EPA. Such records shall contain the following information for each PCB Transformer:
 - (A) Its location.
- (B) The date of each visual inspection and the date that a leak was dis-

- covered, if different from the inspection date.
- (C) The person performing the inspection.
 - (D) The location of any leak(s).
- (E) An estimate of the amount of dielectric fluid released from any leak.
- (F) The date of any cleanup, containment, repair, or replacement.
- (G) A description of any cleanup, containment, or repair performed.
- (H) The results of any containment and daily inspection required for uncorrected active leaks.
- (v) A reduced visual inspection frequency of at least once every 12 months applies to PCB Transformers that utilize either of the following risk reduction measures. These inspections may take place any time during the calendar year as long as there is a minimum of 180 days between inspections.
- (A) a PCB Transformer which has impervious, undrained, secondary containment capacity of at least 100 percent of the total dielectric fluid volume of all transformers so contained or
- (B) A PCB Transformer which has been tested and found to contain less than 60,000 ppm PCBs (after three months of inservice use if the transformer has been serviced for purposes of reducing the PCB concentration).
- (vi) An increased visual inspection frequency of at least once every week applies to any PCB Transformer in use or stored for reuse which poses an exposure risk to food or feed. The user of a PCB Transformer posing an exposure risk to food or feed is responsible for the inspection, recordkeeping, and maintenance requirements under this section until the user notifies the owner that the transformer may pose an exposure risk to food or feed. Following such notification, it is the owner's ultimate responsibility to determine whether the PCB Transformer poses an exposure risk to food or
- (2) Servicing conditions. (i) Transformers classified as PCB-Contaminated Electrical Equipment (as defined in the definition of "PCB-Contaminated Electrical Equipment" under § 761.3) may be serviced (including rebuilding) only with dielectric fluid containing less than 500 ppm PCB.

- (ii) Any servicing (including rebuilding) of PCB Transformers (as defined in the definition of "PCB Transformer" under § 761.3) that requires the removal of the transformer coil from the transformer casing is prohibited. PCB Transformers may be serviced (including topping off) with dielectric fluid at any PCB concentration.
- (iii) PCBs removed during any servicing activity must be captured and either reused as dielectric fluid or disposed of in accordance with the requirements of § 761.60. PCBs from PCB Transformers must not be mixed with or added to dielectric fluid from PCB-Contaminated Electrical Equipment
- (iv) Regardless of its PCB concentration, dielectric fluids containing less than 500 ppm PCB that are mixed with fluids that contain 500 ppm or greater PCB must not be used as dielectric fluid in any electrical equipment. The entire mixture of dielectric fluid must be considered to be greater than 500 ppm PCB and must be disposed of in an incinerator that meets the requirements in § 761.70.
- (v) A PCB Transformer may be converted to PCB-Contaminated Electrical Equipment or to a non-PCB Transformer and a transformer that is classified as PCB-Contaminated Electrical Equipment may be reclassified to a non-PCB Transformer by draining, refilling and/or otherwise servicing the transformer. In order to reclassify, the transformer's dielectric fluid must contain less than 500 ppm PCB (for conversion to PCB-Contaminated Electrical Equipment) or less than 50 ppm PCB (for conversion to a non-PCB Transfomer) after a minimum of three months of in-service use subsequent to the last servicing conducted for the purpose of reducing the PCB concentration in the transformer. In-service means that the transformer is used electrically under loaded conditions that raise the temperature of the dielectric fluid to at least 50° Centigrade. The Assistant Administrator may grant, without further rulemaking, approval for the use of alternative methods that simulate the loaded conditions of in-service use. All PCBs removed from transformers for purposes of reducing PCB concentrations are

- subject to the disposal requirements of § 761.60.
- (vi) Any dielectric fluid containing 50 ppm or greater PCB used for servicing transformers must be stored in accordance with the storage for disposal requirements of § 761.65.
- (vii) Processing and distribution in commerce of PCBs for purposes of servicing transformers is permitted only for persons who are granted an exemption under TSCA 6(e)(3)(B).
- (b) Use in and servicing of railroad transformers. PCBs may be used in transformers in railroad locomotives or railroad self-propelled cars ("railroad transformers") and may be processed and distributed in commerce for purposes of servicing these transformers in a manner other than a totally enclosed manner subject to the following conditions:
- (1) Use restrictions. (i) After July 1, 1983, the number of railroad transformers containing a PCB concentration greater than 60,000 ppm (6.0 percent on a dry weight basis) in use by any affected railroad organization may not exceed two-thirds of the total railroad transformers containing PCBs in use by that organization on January 1, 1982.
- (ii) After January 1, 1984, the number of railroad transformers containing a PCB concentration greater than 60,000 ppm in use by any affected railroad organization may not exceed one-third of the total railroad transformers containing PCBs in use by that organization on January 1, 1982.
- (iii) After July 1, 1984, use of railroad transformers that contain dielectric fluids with a PCB concentration greater than 60,000 ppm is prohibited.
- (iv) After July 1, 1985, the number of railroad transformers containing a PCB concentration greater than 1,000 ppm (0.1 percent on a dry weight basis) in use by any affected railroad organization may not exceed two-thirds of the total railroad transformers containing PCBs in use by that organization on July 1, 1984.
- (v) After January 1, 1986, the number of railroad transformers containing a PCB concentration greater than 1,000 ppm in use by any affected railroad organization may not exceed

one-third of the total railroad transformers containing PCBs in use by that organization on July 1, 1984.

- (vi) After July 1, 1986, use of railroad transformers that contain dielectric fluids with a PCB concentration greater than 1,000 ppm is prohibited.
- (vii) The concentration of PCBs in the dielectric fluid contained in railroad transformers must be measured:
- (A) Immediately upon completion of any authorized servicing of a railroad transformer conducted for the purpose of reducing the PCB concentration in the dielectric fluid in the transformer, and
- (B) Between 12 and 24 months after each servicing conducted in accordance with paragraph (b)(1)(vii)(A) of this section;
- (C) The data obtained as a result of paragraphs (b)(1)(vii) (A) and (B) of this section shall be retained until January 1, 1991.
- (2) Servicing restrictions. (i) If the coil is removed from the casing of a railroad transformer (e.g., the transformer is rebuilt), after January 1, 1982, the railroad transformer may not be refilled with dielectric fluid containing a PCB concentration greater than 50 ppm;
- (ii) After January 1, 1982, railroad transformers may only be serviced with dielectric fluid containing less than 60,000 ppm PCBs, except as provided in paragraph (b)(2)(i) of this section:
- (iii) After January 1, 1984, railroad transformers may only be serviced with dielectric fluid containing less than 1000 ppm PCB, except as provided in paragraph (b)(2)(i) of this section;
- (iv) Dielectric fluid may be filtered through activated carbon or otherwise industrially processed for the purpose of reducing the PCB concentration in the fluid;
- (v) Any PCB dielectric fluid that is used to service PCB railroad transformers must be stored in accordance with the storage for disposal requirements of § 761.65;
- (vi) After July 1, 1979, processing and distribution in commerce of PCBs for purposes of servicing railroad transformers is permitted only for per-

sons who are granted an exemption under TSCA section 6(e)(3)(B).

- (vii) A PCB Transformer may be converted to a PCB-Contaminated Transformer or to a non-PCB Transformer by draining, refilling, and/or otherwise servicing the railroad transformer. In order to reclassify, the railroad transformer's dielectric fluid must contain less than 500 ppm (for conversion to PCB-Contaminated Transformer) or less than 50 ppm PCB (for conversion to a non-PCB Transformer) after a minimum of three months of inservice use subsequent to the last servicing conducted for the purpose of reducing the PCB concentration in the transformer.
- (c) Use in and servicing of mining equipment. PCBs may be used in mining equipment and may be processed and distributed in commerce for purposes of servicing mining equipment in a manner other than a totally enclosed manner until January 1, 1982, subject to the following conditions:
- (1) PCBs may be added to motors in mining equipment in mines or mining areas until January 1, 1982;
- (2) PCB motors in loader-type mining equipment must be rebuilt as air-cooled or other non-PCB-containing motors whenever the motor is returned to a service shop for servicing;
- (3) PCB motors in continuous minertype equipment may be rebuilt as PCB motors until January 1, 1980;
- (4) Any PCBs that are on hand to service or repair mining equipment must be stored in accordance with the storage for disposal requirements of § 761.65;
- (5) After July 1, 1975, processing and distribution in commerce of FCBs for purposes of servicing mining equipment is permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).
- (d) Use in heat transfer systems. PCBs may be used in heat transfer systems in a manner other than a totally enclosed manner until July 1, 1984, subject to the following conditions:
- (1) Each person who owns a heat transfer system that ever contained PCBs must test for the concentration of PCBs in the heat transfer fluid of

- such a system no later than November 1, 1979, and at least annually thereafter. All test sampling must be performed at least three months after the most recent fluid refilling. When a test shows that the PCB concentration is less than 50 ppm, testing under this paragraph is no longer required;
- (2) Within six (6) months of a test performed under paragraph (d)(1) that indicates that a system's fluid contains 50 ppm or greater PCB (0.005% on a dry weight basis), the system must be drained of the PCBs and refilled with fluid containing less than 50 ppm PCB. Topping-off with non-PCB heat transfer fluids to reduce PCB concentrations is permit ted;
- (3) After November 1, 1979, no heat transfer system that is used in the manufacture or processing of any food, drug, cosmetic, or device, as defined in section 201 of the Federal Food, Drug, and Cosmetic Act, may contain heat transfer fluid with 50 ppm or greater PCB (0.005% on a dry weight basis);
- (4) Addition of PCBs to a heat transfer system is prohibited.
- (5) Data obtained as a result of paragraph (d)(1) must be retained for five (5) years after the heat transfer system reaches 50 ppm PCB;
- (e) Use in hydraulic systems. PCBs may be used in hydraulic systems and may be processed and distributed in commerce for purposes of filtering, distilling, or otherwise reducing the concentration of PCBs in hydraulic fluids in a manner other than a totally enclosed manner until July 1, 1984, subject to the following conditions:
- (1) Each person who owns a hydraulic system that ever contained PCBs must test for the concentration of PCBs in the hydraulic fluid of each such system no later than November 1, 1979, and at least annually thereafter. All test sampling must be performed at least three months after the most recent fluid refilling. When a test shows that the PCB concentration is less than 50 ppm, testing under this subparagraph is no longer required;
- (2) Within six (6) months of a test under paragraph (e)(1) that indicates that a system's fluid contains 50 ppm or greater PCB (0.005% on a dry

- weight basis), the system must be drained of the PCBs and refilled with fluid containing less than 50 ppm PCB. Topping-off with non-PCB hydraulic fluids to reduce PCB concentrations is permitted;
- (3) Addition of PCBs to a hydraulic system is prohibited;
- (4) Hydraulic fluid may be drained from a hydraulic system and filtered, distilled, or otherwise serviced in order to reduce the PCB concentration below 50 ppm;
- (5) After July 1, 1979, processing and distribution in commerce of PCBs for purposes of servicing hydraulic systems is permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B);
- (6) Data obtained as a result of paragraph (e)(1) above must be retained for five years after the hydraulic system reaches 50 ppm.
- (f) Use in carbonless copy paper. Carbonless copy paper containing PCBs may be used in a manner other than a totally enclosed manner indefinitely.
- (g) Pigments. Diarylide and Phthalocyanin pigments that contain 50 ppm or greater PCB may be processed, distributed in commerce, and used in a manner other than a totally enclosed manner until January 1, 1982, except that after July 1, 1979, processing and distribution in commerce of diarylide or phthalocyanin pigments that contain 50 ppm or greater PCB is permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).
- (h) Use in and servicing of electromagnets, switches and voltage regulators. PCBs at any concentration may be used in electromagnets, switches (including sectionalizers and motor starters), and voltage regulators and may be used for purposes of servicing this equipment (including rebuilding) for the remainder of their useful lives, subject to the following conditions:
- (1) Use conditions. (i) After October 1, 1985, the use and storage for reuse of any electromagnet which poses an exposure risk to food or feed is prohibited if the electromagnet contains greater tha 500 ppm PCBs.
- (ii) A visual inspection of each electromagnet subject to paragraph

(h)(1)(i) shall be performed at least once every week according to the conditions contained in $\S 761.30(a)(1)(iii)$ and (iv).

- (2) Servicing conditions. (i) Servicing (including rebuilding) any electromagnet, switch, or voltage regulator with a PCB concentration of 500 ppm or greater which requires the removal and rework of the internal components is prohibited.
- (ii) Electromagnets, switches, and voltage regulators classified as PCB-Contaminated Electrical Equipment (as defined in the definition of "PCB-Contaminated Electrical Equipment" under § 761.3) may be serviced (including rebuilding) only with dielectric fluid containing less than 500 ppm PCB.
- (iii) PCBs removed during any servicing activity must be captured and either reused as dielectric fluid or disposed of in accordance with the requirements of § 761.60. PCBs from electromagnets switches, and voltage regulators with a PCB concentration of at least 500 ppm must not be mixed with or added to dielectric fluid from PCB-Contaminated Electrical Equipment.
- (iv) Regardless of its PCB (concentration, dielectric fluids containing less than 500 ppm PCB) that are mixed with fluids that contain 500 ppm or greater PCB must not be used as dielectric fluid in any electrical equipment. The entire mixture of dielectric fluid must be considered to be greater than 500 ppm PCB and must be disposed of in an incinerator that meets the requirements of § 761.70.
- (v) An electromagnet, switch or voltage regulator with a PCB concentration of at least 500 ppm may be converted to PCB-Contaminated Electrical Equipment or to a non-PCB classification and PCB-Contaminated Electrical Equipment may be reclassified to a non-PCB classification by draining, refilling and/or otherwise servicing the equipment. In order to be reclassified, the equipment's dielectric fluid must contain less than 500 ppm PCB (for conversion to PCB-Contaminated Electrical Equipment) or less than 50 ppm PCB (for conversion to a non-PCB classification) after a minimum of three months of in-service use

subsequent to the last servicing conducted for the purpose of reducing the PCB concentration in the equipment. In-service use means the equipment is used electrically under loaded conditions. The Assistant Administrator may grant, without further rulemaking, approval for the use of alternative methods that simulate the loaded conditions of in-service use. All PCBs removed from this equipment for purposes of reducing PCB concentrations are subject to the disposal requirements of § 761.60.

- (vi) Any dielectric fluid containing 50 ppm or greater FCB used for servicing electromagnets, switches, or voltage regulators must be stored in accordance with the storage for disposal requirements of § 761.65.
- (vii) Processing and distribution in commerce of PCEs for purposes of servicing electromagnets, switches or voltage regulators is permitted only for persons who are granted an exemption under TSCA 6(e)(3)(B).
- (i) Use in natural gas pipeline compressors. PCBs may be used in natural gas pipeline compressors until May 1, 1980, in a manner other than a totally enclosed manner.
- (j) Small quantities for research and development. PCBs may be processed, distributed in commerce, and used in small quantities for research and development, as defined in the definition of "Small quantities for research and development" under § 761.3, in a manner other than a totally enclosed manner until July 1, 1984, except that after July 1, 1979, processing and distribution in commerce of PCEs in small quantities for research and development is permitted only for persons who have been granted an ex-TSCA section emption under 6(e)(3)(B).
- (k) Microscopy mounting medium. PCBs may be processed, distributed in commerce, and used as a mounting medium in microscopy in a manner other than a totally enclosed manner until July 1, 1984, except that after July 1, 1979, processing and distribution in commerce of PCBs for purposes of use as a mounting medium in microscopy are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

- (1) Use in capacitors. PCBs at any concentration may be used in capacitors, subject to the following conditions:
- (1) Use conditions. (i) After October 1, 1988, the use and storage for reuse of PCB Large High Voltage Capacitors and PCB Large Low Voltage Capacitors which pose an exposure risk to food or feed is prohibited.
- (ii) After October 1, 1988, the use of PCB Large High Voltage Capacitors and PCB Large Low Voltage Capacitors is prohibited unless the capacitor is used within a restricted-access electrical substation or in a contained and restricted-access indoor installation. A restricted-access electrical substation is an outdoor, fenced or walled-in facility that restricts public access and is used in the transmission or distribution of electric power. A contained and restricted-access indoor installation does not have public access and has an adequate roof, walls, and floor to contain any release of PCBs within the indoor location.
- (m) Use in and servicing of circuit breakers, reclosers and cable. PCBs at any concentration may be used in circuit breakers, reclosers, and cable and may be used for purposes of servicing this electrical equipment (including rebuilding) for the remainder of their useful lives, subject to the following conditions:
- (1) Servicing conditions. (i) Circuit breakers, reclosers, and cable may be serviced (including rebuilding) only with dielectric fluid containing less than 50 ppm PCB.
- (ii) Any circuit breaker, recloser or cable found to contain at least 50 ppm PCBs may be serviced only in accordance with the conditions contained in 40 CFR 761.30(h)(2).

(Approved by the Office of Management and Budget under control number 2070-9003)

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37357, Aug. 25, 1983; 48 FR 135, Jan. 3, 1983; 49 FR 25241 and 25242, June 20, 1984]

Subpart C—Marking of PCBs and PCB ltems

§ 761.40 Marking requirements.

- (a) Each of the following items in existence on or after July 1, 1978 shall be marked as illustrated in Figure 1 in § 761.44(a): The mark illustrated in Figure 1 is referred to as M_L throughout this subpart.
 - (1) PCB Containers;
- (2) PCB Transformers at the time of manufacture, at the time of distribution in commerce if not already marked, and at the time of removal from use if not already marked. [Marking of PCB-Contaminated Electrical Equipment is not required];
- (3) PCB Large High Voltage Capacitors at the time of manufacture, at the time of distribution in commerce if not already marked, and at the time of removal from use if not already marked;
- (4) Equipment containing a PCB Transformer or a PCB Large High Voltage Capacitor at the time of manufacture, at the time of distribution in commerce if not already marked, and at the time of removal of the equipment from use if not already marked;
- (5) PCB Large Low Voltage Capacitors at the time of removal from use;
- (8) Electric motors using PCB coolants (See also paragraph (e) of this section).
- (7) Hydraulic systems using PCB hydraulic fluid (See also paragraph (e) of this section);
- (8) Heat transfer systems (other than PCB Transformers) using PCBs (See also paragraph (e) of this section);
- (9) PCB Article Containers containing articles or equipment that must be marked under paragraph (a) (1) through (8) above;
- (10) Each storage area used to store PCBs and PCB Items for disposal.
- (b) As of October 1, 1978, each transport vehicle shall be marked on each end and side with $M_{\rm t}$ as described in § 761.45(a) if it is loaded with PCB Containers that contain more than 45 kg (99.4 lbs.) of PCBs in the liquid phase or with one or more PCB Transformers (See also paragraph (e) of this section).

- (c) As of January 1, 1979, the following PCB Articles shall be marked with mark M_t as described in § 761.45(a):
- (1) All PCB Transformers not marked under paragraph (a) of this section [marking of PCE-Contaminated Electrical Equipment is not required]:
- (2) All PCB Large High Voltage Capacitors not marked under paragraph (a) of this section
- (i) Will be marked individually with mark M_1 , or
- (ii) If one or more PCB Large High Voltage Capacitors are installed in a protected location such as on a power pole, or structure, or behind a fence; the pole, structure, or fence shall be marked with mark M_L, and a record or procedure identifying the PCB Capacitors shall be maintained by the owner or operator at the protected location.
- (d) As of January 1, 1979, all PCB Equipment containing a PCB Small Capacitor shall be marked at the time of manufacture with the statement, "This equipment contains PCB Capacitor(s)". The mark shall be of the same size as the mark M_L.
- (e) As of October 1, 1979, applicable PCB Items in paragraph (a) (1), (6), (7), and (8) containing PCBs in concentrations of 50 to 500 ppm and applicable transport vehicles in paragraph (b) loaded with PCB Containers that contain more than 45 kg (99.4 lbs.) of liquid PCBs in concentrations of 50 ppm to 500 ppm shall be marked with mark M_L as d scribed in § 761.45(a).
- (f) Where mark M_L is specified but the PCB Article or PCB Equipment is too small to accomodate the smallest permissible size of mark M_L , mark M_S as described in § 761.45(b), may be used instead of mark M_L .
- (g) Each large low voltage capacitor, each small capacitor normally used in alternating current circuits, and each fluorescent light ballast manufactured ("manufactured", for purposes of this sentence, means built) between July 1, 1978 and July 1, 1998 that do not contain PCBs shall be marked by the manufacturer at the time of manufacture with the statement, "No PCBs". The mark shall be of similar durability and readability as other marking that indicate electrical information, part

- numbers, or the manufacturer's name. For purposes of this paragraph marking requirement only is applicable to items built domestically or abroad after June 30, 1978.
- (h) All marks required by this subpart must be placed in a position on the exterior of the PCB Items or transport vehicles so that the marks can be easily read by any persons inspecting or servicing the marked PCB Items or transport vehicles.
- (i) Any chemical substance or mixture that is manufactured after the effective date of this rule and that contains less than 500 ppm PCB (0.05% on a dry weight basis), including PCB that is a byproduct or impurity, must be marked in accordance with any requirements contained in the exemption granted by EPA to permit such manufacture and is not subject to any other requirement in this subpart unless so specified in the exemption. This paragraph applies only to containers of chemical substances or mixtures. PCB articles and equipment into which the chemical substances or mixtures are processed, are subject to the marking requirements contained elsewhere in this subpart.

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37359, Aug. 25, 1982]

§ 761.45 Marking formats.

The following formats shall be used for marking:

- (a) Large PCB Mark—M_L. Mark M_L shall be as shown in Figure 1, letters and striping on a white or yellow background and shall be sufficiently durable to equal or exceed the life (including storage for disperal) of the PCB Article, PCB Equipment, or PCB Container. The size of the mark shall be at least 15.25 cm (6 inches) on each side. If the PCB Article or PCB Equipment is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of 5 cm (2 inches) on each side.
- (b) Small PCB Mark—M. Mark M. shall be as shown in Figure 2, letters and striping on a white or yellow background, and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB

Article, PCB Equipment, or PCB Container. The mark shall be a rectangle 2.5 by 5 cm (1 inch by 2 inches). If the PCB Article or PCB Equipment is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of 1 by 2 cm (.4 by .8 inches).



Figure 1

CAUTION contains PCBs (Polychlorinated Biphenyls) FOR PROPER DISPOSAL INFORMATION CONTACT US ENVIRONMENTAL PROTECTION AGENCY

Figure 2

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982]

Subpart D—Storage and Disposal

Note: This subpart does not require removal of PCBs and PCB Items from service

and disposal earlier than would normally be the case. However, when PCBs and PCB Items are removed from service and disposed of, disposal must be undertaken in accordance with these regulations. PCBs (including soils and debris) and PCB Items which have been placed in a disposal site are considered to be "in service" for purposes of the applicability of this subpart. This subpart does not require PCBs and PCB Items landfilled prior to February 17, 1978 to be removed for disposal. However, if such PCBs or PCB Items are removed from the disposal site, they must be disposed of in accordance with this subpart. Other subparts are directed to the manufacture, processing. distribution in commerce, and use of PCBs and may result in some cases in disposal at an earlier date than would otherwise occur.

§ 761.60 Disposal requirements.

- (a) *PCBs.* (1) Except as provided in paragraph (a) (2), (3), (4), and (5) of this section, PCBs must be disposed of in an incinerator which complies with § 761.70.
- (2) Mineral oil dielectric fluid from PCB-Contaminated Electrical Equipment containing a PCB concentration of 50 ppm or greater, but less than 500 ppm, must be disposed of in one of the following:
- (i) In an incinerator that complies with § 761.70;
- (ii) In a chemical waste landfill that complies with § 761.75 if information is provided to the owner or operator of the chemical waste landfill that shows that the mineral oil dielectric fluid does not exceed 500 ppm PCB and is not an ignitable waste as described in § 761.75(b) (8) (iii);
- (iii) In a high efficiency boiler provided that:
- (A) The boiler complies with the following criteria:
- (1) The boiler is rated at a minimum of 50 million BTU hours;
- (2) If the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned;
- (3) If the boiler uses coal as the primary fuel, the carbon monoxide con-

centration in the stack is 100 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned:

- (4) The mineral oil dielectric fluid does not comprise more than ten (10) percent (on a volume basis) of the total fuel feed rate;
- (5) The mineral oil dielectric fluid is not fed into the boiler unless the boiler is operating at its normal operating temperature (this prohibits feeding these fluids during either start up or shut down operations);
- (6) The owner or operator of the boiler:
- (i) Continuously monitors and records the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning mineral oil dielectric fluid; or
- (ii) If the boiler will burn less than 30,000 gallons of mineral oil dielectric fluid per year, measures and records the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning mineral oil dielectric fluid.
- (7) The primary fuel feed rates, mineral oil dielectric fluid feed rates, and total quantities of both primary fuel and mineral oil dielectric fluid fed to the boiler are measured and recorded at regular intervals of no longer than 15 minutes while burning mineral oil dielectric fluid.
- (8) The carbon monoxide concentration and the excess oxygen percentage are checked at least once every hour that mineral oil dielectric fluid is burned. If either measurement falls below the levels specified in this rule, the flow of mineral oil dielectric fluid to the boiler shall be stopped immediately.
- (B) Thirty days before any person burns mineral oil dielectric fluid in the boiler, the person gives written notice to the EPA Regional Administrator for the EPA Region in which the boiler is located and that the notice contains the following information:
- (1) The name and address of the owner or operator of the boiler and the address of the boiler:
- (2) The boiler rating in units of BTU/hour;

- (3) The carbon monoxide concentration and the excess oxygen percentage in the stack of the boiler when it is operated in a manner similar to the manner in which it will be operated when mineral oil dielectric fluid is burned; and
- (4) The type of equipment, apparatus, and procedures to be used to control the feed of mineral oil dielectric fluid to the boiler and to monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack.
- (C) When burning mineral oil dielectric fluid, the boiler must operate at a level of output no less than the output at which the measurements required under paragraph (b)(2)(iii)(B)(3) of this section were taken.
- (D) Any person burning mineral oil dielectric fluid in a boiler obtains the following information and retains the information for five years at the boiler location:
- (1) The data required to be collected under paragraphs (a)(2)(A) (6) and (7) of this section; and
- (2) The quantity of mineral oil dielectric fluid burned in the boiler each month:
- (iv) In a facility that is approved in accordance with § 751.60(e). For the purpose of burning mineral oil dielectric fluid, an applicant under § 761.60(e) must show that his combustion process destroys PCBs as efficiently as does a high efficiency boiler, as defined in paragraph (b) 2)(iii) of this section, or a § 761.70 approved incinerator.
- (3) Liquids, other than mineral oil dielectric fluid, containing a FCB concentration of 50 ppm or greater, but less than 500 ppm. shall be disposed of:
- (i) In an incinerator which complies with \$761.70;
- (ii) In a chemical waste landfill which complies with § 761.75 if information is provided to the owner or operator of the chemical waste landfill that shows that the waste does not exceed 500 ppm PCB and is not an ignitable waste as described in § 761.75(b)(8)(iii);
- (iii) In a high efficiency boiler provided that.

- (A) The boiler complies with the following criteria:
- (1) The boiler is rated at a minimum of 50 million BTU/hour;
- (2) If the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned;
- (3) If the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is 100 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned:
- (4) The waste does not comprise more than ten (10) percent (on a volume basis) of the total fuel feed rate:
- (5) The waste is not fed into the boiler unless the boiler is operating at its normal operating temperature (this prohibits feeding these fluids during either start up or shut down operations);
- (6) The owner or operator of the boiler must:
- (i) Continuously monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning waste fluid; or
- (ii) If the boiler will burn less than 30,000 gallons of waste fluid per year, measure and record the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning waste fluid;
- (7) The primary fuel feed rate, waste fluid feed rate, and total quantities of both primary fuel and waste fluid fed to the boiler must be measured and recorded at regular intervals of no longer than 15 minutes while burning waste fluid; and
- (8) The carbon monoxide concentration and the excess oxygen percentage must be checked at least once every him that the waste is burned. If either measurement falls below the levels specified in this rule, the flow of waste to the boiler shall be stopped immediately.
- (B) Prior to any person burning these liquids in the boiler, approval must be obtained from the EPA Regional Administrator for the EPA Region in which the boiler is located

- and any persons seeking such approval must submit to the EPA Regional Administrator a request containing at least the following information:
- (1) The name and address of the owner or operator of the boiler and the address of the boiler;
- (2) The boiler rating in units of BTU/hour;
- (3) The carbon monoxide concentration and the excess oxygen percentage in the stack of the boiler when it is operated in a manner similar to the manner in which it will be operated when low concentration PCB liquid is burned:
- (4) The type of equipment, apparatus, and procedures to be used to control the feed of mineral oil dielectric fluid to the boiler and to monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack;
- (5) The type of waste to be burned (e.g., hydraulic fluid, contaminated fuel oil, heat transfer fluid, etc.);
- (6) The concentration of PCBs and of any other chlorinated hydrocarbon in the waste and the results of analyses using the American Society of Testing and Materials (ASTM) methods as follows: carbon and hydrogen content using ASTM D-3178-73 (reapproved 1979), nitrogen content using ASTM E-258-67, sulfur content using ASTM D-2784-80, D-1266-80, or D-129-64, chlorine content using ASTM D-808-81, water and sediment content using either ASTM D-2709-68 or D-1796-68, ash content using D-482-80, calorific value using ASTM D-240-76 (reapproved 1980), carbon residue using either ASTM D-2158-80 or D-524-81, and flash point using ASTM D-93-80.
- (7) The quantity of wastes estimated to be burned in a thirty (30) day period:
- (8) An explanation of the procedures to be followed to insure that burning the waste will not adversely affect the operation of the boiler such that combustion efficiency will decrease.
- (C) On the basis of the information in paragraph (a)(3)(iii)(B) of this section and any other available information, the Regional Administrator may, at his discretion, find that the alternate disposal method will not present

an unreasonable risk of injury to health or the environment and approve the use of the boiler;

- (D) When burning PCB wastes, the boiler must operate at a level of output no less than the output at which the measurements required under paragraph (a)(3)(iii)(B)(3) of this section were taken; and
- (E) Any person burning liquids in boilers approved as provided in paragraph (a)(3)(iii)(C) of this section, must obtain the following information and retain the information for five years at the boiler location:
- (1) The data required to be collected in paragraphs (a)(3)(iii)(A) (6) and (7) of this section:
- (2) The quantity of low concentration PCB liquid burned in the boiler each month.
- (3) The analysis of the waste required by paragraph (a)(3)(iii)(B)(5) of this section taken once a month for each month during which low concentration PCB liquid is burned in the boiler.
- (iv) In a facility that is approved in accordance with § 751.60(e). For the purpose of burning liquids, other than mineral oil dielectric fluid, containing 50 ppm or greater PCB, but less than 500 ppm PCB, an applicant under § 761.60(e) must show that his combustion process destroys PCBs as efficiently as does a high efficiency boiler, as defined in § 761.60(a)(2)(iii), or a § 761.70 incinerator.
- (4) Any non-liquid PCBs in the form of contaminated soil, rags, or other debris shall be disposed of:
- (i) In an incinerator which complies with § 761.70; or
- (ii) In a chemical waste landfill which complies with § 761.75.

Note: Except as provided in § 761.75(b)(8)(ii), liquid PCBs shall not be processed into non-liquid forms to circumvent the high temperature incineration requirements of § 761.60(a).

- (5) All dredged materials and municipal sewage treatment sludges that contain PCBs shall be disposed of:
- (i) In an incinerator which complies with § 761.70,
- (ii) In a chemical waste landfill which complies with § 761.65; or
- (iii) Upon application, using a disposal method to be approved by the Agen-

cy's Regional Administrator in the EPA Region in which the PCBs are located. Applications for disposal in a manner other than prescribed in (i) or (ii) above must be made in writing to the Regional Administrator. The application must contain information that, based on technical, environmental, and economic considerations, indicates that disposal in an incinerator or chemical waste landfill is not reasonable and appropriate, and that the alternate disposal method will provide adequate protection to health and the environment. The Regional Administrator may request other information that he or she believes to be necessary for evaluation of the alternate disposal method. Any approval by the Regional Administrator shall be in writing and may contain any appropriate limitations on the approved alternate method for disposal. In addition to these regulations, the Regional Administrator shall consider other applicable Agency guidelines, criteria, and regulations to ensure that the discharges of dredged material and sludges that contain PCBs and other contaminants are adequately controlled to protect the environment. The person to whom such approval is issued must comply with all limitations contained in the approval.

- (6) When storage is desired prior to disposal, PCBs shall be stored in a facility which complies with § 761.65.
- (b) PCB Articles—(1) Transformers.
 (i) PCB Transformers shall be disposed of in accordance with either of the following:
- (A) In an incinerator that complies with § 751.70; or
- (B) In a chemical waste landfill which complies with § 761.75; Provided, That the transformer is first drained of all free flowing liquid, filled with solvent, allowed to stand for at least 18 hours, and then drained thoroughly. PCB liquids that are removed shall be disposed of in accordance with paragraph (a) of this section. Solvents may include kerosene, xylene, toluene and other solvents in which PCBs are readily soluble. Precautionary measures should be taken, however, that the solvent flushing procedure is conducted in accordance with applicable

safety and health standards as required by Federal or State regulations.

- (2) PCB Capacitors. (i) The disposal of any capacitor shall comply with all requirements of this subpart unless it is known from label or nameplate information, manufacturer's literature (including documented communications with the manufacturer), or chemical analysis that the capacitor does not contain PCBs.
- (ii) Any person may dispose of PCB Small Capacitors as municipal solid: waste, unless that person is subject to the requirements of paragraph: (b)(2)(iv) of this section.
- (iii) Any PCB Large High or Low Voltage Capacitor which contains 500 ppm or greater PCBs, owned by any person, shall be disposed of in accordance with either of the following:
- (A) Disposal in an incinerator that complies with § 761.70; or
- (B) Until March 1, 1981, disposal in a chemical waste landfill that complies with § 761.75.
- (iv) Any PCB Small Capacitor owned by any person who manufactures or at any time manufactured PCB Capacitors or PCB Equipment and acquired the PCB Capacitors in the course of such manufacturing shall be disposed of in accordance with either of the following:
- (A) Disposal in an incinerator which complies with § 761.70; or
- (B) Until March 1, 1981, disposal in a chemical waste landfill which complies with § 761.75.
- (v) Notwithstanding the restrictions imposed by paragraph (b)(2)(iii)(B) or (b)(2)(iv)(B) of this section, PCB capacitors may be disposed of in PCB chemical waste landfills that comply with § 761.75 subsequent to March 1. 1981, if the Assistant Administrator for Pesticides and Toxic Substances publishes a notice in the FEDERAL REG-ISTER declaring that those landfills are available for such disposal and exp'aining the reasons for the extension or reopening. An extension or reopening for disposal of PCB capacitors that is granted under this subsection shall be subject to such terms and conditions as the Assistant Administrator may prescribe and shall be in effect for such period as the Assistant Administrator may prescribe. The Assist-

- ant Administrator may permit disposal of PCB capacitors in EPA approved chemical waste landfills after March 1, 1981, if in his opinion,
- (1) Adequate incineration capability for PCB capacitors is not available, or
- (2) The incineration of PCB capacitors will significantly interfere with the incineration of liquid PCBs, or
 - (3) There is other good cause shown.

As part of this evaluation, the Assistant Administrator will consider the impact of his action on the incentives to construct or expand PCB incinerators.

- (vi) Prior to disposal in a § 761.75 chemical waste landfill, all large PCB capacitors, and all small PCB capacitors described in paragraph (b)(2)(iv) of this section, shall be placed in one of the Department of Transportation specification containers identified in § 761.65(c)(6) or in containers that comply with 49 CFR 178.118 (specification 17H containers). Large PCB capacitors which are too big to fit inside one of these containers shall be placed in a container with strength and durability equivalent to the DOT specification containers. In all cases, interstitial space in the container shall be filled with sufficient absorbent material (such as sawdust or soil) to absorb any liquid PCBs remaining in the capacitors.
- (3) PCB hydraulic machines. PCB hydraulic machines such as die casting machines may be disposed of as municipal solid waste or salvage provided that the machines are drained of all free-flowing liquid and the liquid is disposed of in accordance with the provisions of paragraph (a) of this section. If the PCB liquid contains 1000 ppm PCB or greater, then the hydraulic machine must be flushed prior to disposal with a solvent containing less than 50 ppm PCB (see transformer solvents at paragraph (b)(1)(i)(B) of this section) and the solvent disposed of in accordance with paragraph (a) of this section.
- (4) PCB-Contaminated Electrical Equipment. All PCB-Contaminated Electrical Equipment except capacitors shall be disposed of by draining all free flowing liquid from the electrical equipment and disposing of the

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liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained electrical equipment is not regulated by this rule. Capacitors that contain between 50 and 500 ppm PCBs shall be disposed of in an incinerator that complies with § 761.70 or in a chemical waste landfill that complies with § 761.75.

- (5) Other PCB Articles. (i) PCB Articles with a PCB concentration of 500 ppm or greater must be disposed of:
- (A) In an incinerator that complies with § 761.70; or
- (B) In a chemical waste landfill that complies with § 761.75, provided that all free-flowing liquid PCBs have been thoroughly drained from any articles before the articles are placed in the chemical waste landfill and that the drained liquids are disposed of in an incinerator that complies with § 761.70.
- (ii) PCB Articles with a PCB concentration between 50 and 500 ppm must be disposed of by draining all free flowing liquid from the article and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained article is not regulated by this rule.
- (6) Storage of PCB Articles. Except for a PCB Article described in paragraph (b)(2)(ii) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section, any FCB Article shall be stored in accordance with § 761.65 prior to disposal.
- (c) PCB Containers. (1) Unless decontaminated in compliance with § 761.79 or as provided in (c)(2) of this section, a PCB Container shall be disposed of:
- (i) In an incinerator which complies with § 761.70, or
- (ii) In a chemical waste landfill that complies with § 761.75; provided that if there are PCBs in a liquid state, the PCB Container shall first be drained and the PCB liquid disposed of in accordance with paragraph (a) of this section.
- (2) Any PCB Container used to contain only PCBs at a concentration less than 500 ppm shall be disposed of as municipal solid wastes; provided that if the PCBs are in a liquid state, the

- PCB Container shall first be drained and the PCB liquid shall be disposed of in accordance with paragraph (a) of this section.
- (3) Prior to disposal, a PCB container shall be stored in a facility which complies with § 761.65.
- (d) Spills. (1) Spills, leaks, and other uncontrolled discharges of PCBs constitute the disposal of PCBs.
- (2) PCBs resulting from the clean-up and removal of spills, leaks, or other uncontrolled discharges, must be stored and disposed of in accordance with paragraph (a) of this section.
- (3) These regulations do not exempt any person from any actions or liability under other statutory authorities, including but not limited to the Clean Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.
- (e) Any person who is required to incinerate any PCBs and PCB Items under this subpart and who can demonstrate that an alternative method of destroying PCBs and PCB Items exists and that this alternative method can achieve a level of performance equivalent to § 761.70 incinerators or high efficiency boilers as provided in paragraph (a)(2)(iv) and (a)(3)(iv) of this section, may submit a written request to either the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances for an exemption from the incineration requirements of § 731.70 or § 761.30. Requests for approval of alternate methods that will be operated in more than one region must be submitted to the Assistant Administrator for Pesticides and Toxic Substances except for research and development involving less than 500 pounds of PCD material (see paragraph (i)(2)) Requests for approval of alternate methods that will be operated in only one region must be submitted to the appropriate Regional Administrator. The applicant must show that his method of destroying PCBs will not present an unreasonable risk of injury to health or the environment. On the basis of such information and any available information, the Regional Administrator or Assistant Administrator for Pesticides and

Toxic Substances may, in his discretion, approve the use of the alternate method if he finds that the alternate disposal method provides PCB destruction equivalent to disposal in a § 761.70 incinerator or a § 761.60 high efficiency boiler and will not present an unreasonable risk of injury to health or the environment. Any approval must be stated in writing and may contain such conditions and provisions as the Regional Administrator or Assistant Administrator for Pesticides and Toxic Substances deems appropriate. The person to whom such waiver is issued must comply with all limitations contained in such determination.

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- (f)(1) Each operator of a chemical waste landfill, incinerator, or alternative to incineration approved under paragraph (e) of this section shall give the following written notices to the state and local governments within whose jurisdiction the disposal facility is located:
- (i) Notice at least thirty (30) days before a facility is first used for disposal of PCBs required by these regulations; and
- (ii) At the request of any state or local government, annual notice of the quantities and general description of PCBs disposed of during the year. This annual notice shall be given no more than thirty (30) days after the end of the year covered.
- (iii) The Regional Administrator may reduce the notice period required by paragraph (f)(1)(i) of this section from thirty days to a period of no less than five days in order to expedite interim approval of the chemical waste landfill located in Sedgwick County, Kansas.
- (2) Any person who disposes of PCBs under a paragraph (a)(5)(iii) of this section incineration or chemical waste landfilling waiver shall give written notice at least thirty (30) days prior to conducting the disposal activities to the state and local governments within whose jurisdiction the disposal is to take place.
- (g) Testing procedures. (1) Owners or users of mineral oil dielectric fluid electrical equipment may use the following procedures to determine the

concentration of PCBs in the dielectric fluid:

- (i) Dielectric fluid removed from mineral oil dielectric fluid electrical equipment may be collected in a common container, provided that no other chemical substances or mixtures are added to the container. This common container option does not permit dilution of the collected oil. Mineral oil that is assumed or known to contain at least 50 ppm PCBs must not be mixed with mineral oil that is known or assumed to contain less than 50 ppm PCBs to reduce the concentration of PCBs in the common container. If dielectric fluid from untested, oil-filled circuit breakers, reclosers, or cable is collected in a common container with dielectric fluid from other oilfilled electrical equipment, the entire contents of the container must be treated as PCBs at a concentration of at least 50 ppm. unless all of the fluid from the other oil-filled electrical equipment has been tested and shown to contain less than 50 ppm PCBs.
- (ii) For purposes of complying with the marking and disposal requirements, representative samples may be taken from either the common containers or the individual electrical equipment to determine the PCB concentration, except that if any PCBs at a concentration of 500 ppm or greater have been added to the container or equipment then the total container contents must be considered as having a PCB concentration of 500 ppm or greater for purposes of complying with the disposal requirements of this subpart. For purposes of this subparagraph, representative samples of mineral oil dielectric fluid are either samples taken in accordance with American Society of Testing and Materials method D-923 or samples taken from a container that has been thoroughly mixed in a manner such that any PCBs in the container are uniformly distributed throughout the liquid in the container.
- (2) Owners or users of waste oil may use the following procedures to determine the PCB concentration of waste oil:
- (i) Waste oil from more than one source may be collected in a common container, provided that no other

chemical substances or mixtures, such as non-waste oils, are added to the container.

- (ii) For purposes of complying with the marking and disposal requirements, representative samples may be taken from either the common containers or the individual electrical equipment to determine the PCB concentration. Except, That if any PCBs at a concentration of 500 ppm or greater have been added to the container or equipment then the total container contents must be considered as having a PCB concentration of 500 ppm or greater for purposes of complying with the disposal requirements of the Subpart. For purposes of this paragraph, representative samples of mineral oil dielectric fluid are either samples taken in accordance with American Society of Testing and Materials method D-923-81 or samples taken from a container that has been thoroughly mixed in a manner such that any PCBs in the container are uniformly distributed throughout the liquid in the container.
- (h) Requirements for export and import of PCBs for purposes of disposal and PCB Items for purposes of disposal are found in § 761.20.
- (i) Approval authority for aisposal methods. (1) The officials (the Assistant Administrator for Pesticides and Toxic Substances and the Regional Administrators) designated §§ 761.60 (e) and 761.70 (z) and (b) to receive requests for approval of PCB disposal activities are the primary approval authorities for these activities. Notwithstanding, the Assistant Administrator for Pesticides and Toxic Substances may, at his/her liscretion, assign the authority to review and approve any aspect of a disposal system to the Office of Pesticides and Toxic Substances or to a Regional Administrator.
- (2) Except for activity authorized under § 761.30(j), research and development (R and D) into PCB disposal methods using a total of less than 500 pounds of PCB material (regardless of PCB concentration) will be reviewed and approved by the appropriate EPA Regional Administrator and research and development using 500 pounds or more of PCB material (regardless of

PCB concentration) will be reviewed by the approval authorities set out in §§ 761.60(e) and 761.70 (a) and (b).

144 FR 31542, May 31, 1979, as amended at 44 FR 54297, Sept. 19, 1979; 45 FR 20475, Mar. 28, 1980, Redesignated at 47 FR 19527, May 6, 1982, and praenced at 47 FR 37359, Aug. 25, 1982; 48 FR 5730, Feb. 8, 1983; 48 FR 13185, Mar. 30, 1983; 48 FR 15125, Apr. 7, 1983]

§ 761.65 Storage for disposal.

- (a) Any PCB Article or PCB Container stored for disposal before January 1, 1983, shall be removed from storage and disposed of as required by this part before January 1, 1984. Any PCB Article or PCE Container stored for disposal after January 1, 1983, shall be removed from storage and disposed of as required by Subpart D within one year from the date when it was first placed into storage.
- (b) Except as provided in paragraph (c) of this section, after July 1, 1978, owners or operators of any facilities used for the storage of PCBs and PCB Items designated for disposal shall comply with the following requirements:
- (1) The facilities shall meet the following criteria:
- (i) Adequate roof and walls to prevent rain water from reaching the stored PCBs and PCB Items;
- (ii) An adequate floor which has continuous curbing with a minimum six inch high curb. The floor and curbing must provide a containment volume equal to at least two times the internal volume of the largest PCB Article or PCB Container stored therein or 25 percent of the total internal volume of all PCB Articles or 1 CB Containers stored therein, which wer is greater;
- (hi) No drain valves, floor drains, expansion points, sewer lines, or other openings that would permit liquids to flow from the curred area;
- (iv) Floors and curbing constructed of continuous smooth and impervious materials, such as Portland cement concrete or steel, to prevent or minimize penetration of PCBs; and
- (v) Not located at a site that is below the 100-year flood water elevation.
- (c)(1) The following PCB Items may be stored temporarily in an area that does not comply with the require-

ments of paragraph (b) of this section for up to thirty days from the date of their removal from service, provided that a notation is attached to the PCB Item or a PCB Container (containing the item) indicating the date the item was removed from service:

- (i) Non-leaking PCB Articles and PCB Equipment;
- (ii) Leaking PCB Articles and PCB Equipment if the PCB Items are placed in a non-leaking PCB Container that contains sufficient sorbent materials to absorb any liquid PCBs remaining in the PCB Items;
- (iii) PCB Containers containing nonliquid PCBs such as contaminated soil, rags, and debris; and
- (iv) PCB Containers containing liquid PCBs at a concentration between 50 and 500 ppm, provided a Spill Prevention, Control and Countermeasure Plan has been prepared for the temporary storage area in accordance with 40 CFR Part 112. In addition, each container must bear a notation that indicates that the liquids in the drum do not exceed 500 ppm PCB.
- (2) Non-leaking and structurally undamaged PCB Large High Voltage Capacitors and PCB-Contaminated Electrical Equipment that have not been drained of free flowing dielectric fluid may be stored on pallets next to a storage facility that meets the requirements of paragraph (b) of this section. PCB-Contaminated Electrical Equipment that has been drained of free flowing dielectric fluid is not subject to the storage provisions of § 761.65. Storage under this subparagraph will be permitted only when the storage facility has immediately available unfilled storage space equal to 10 percent of the volume of capacitors and equipment stored outside the facility. The capacitors and equipment temporarily stored outside the facility shall be checked for leaks weekly.
- (3) Any storage area subject to the requirements of paragraph (b) or paragraph (c)(1) of this section shall be marked as required in Subpart C—§ 761.40(a)(10).
- (4) No item of movable equipment that is used for handling PCBs and PCB Items in the storage facilities and that comes in direct contact with PCBs shall be removed from the stor-

- age facility area unless in hair been decontaminated as specified in § 761.79.
- (5) All PCB Articles and PCB Containers in storage shall be checked for leaks at least once every 30 days. Any leaking PCB Articles and PCB Containers and their contents simall be transferred immediately two properly marked non-leaking containers. Any spilled or leaked materials simall be immediately cleaned up, using sombents or other adequate means, and the PCB-contaminated materials and residues shall be disposed of im accordance with § 761.60(a)(4).
- (6) Except as provided in paragraph (c)(7) of this section, any container 7 used for the storage of Royald PCBs shall comply with the Shipping Container Specification of time Department of Transportation (DOT), 49 CFR 178.80 (Specification 5 countainer without removable handle (Specification 5B container without removable head), 178102 (Specification 6D overpack with Specification 2S(§ 178.35) or 2SL(§ 173.35a)) polyethylene containers) or 178114 (Specification 17E container). Any container used for the storage of mon-liquid PCBs shall comply with the specifications of 49 CFR 178.80 Speciffication 5 container), 178.32 (Specification 5B container) or 178.115 (Specification 17C container). As an allitermente, containers larger than those specified in DOT Specifications 5, 5B, or 177C may be used for non-liquid PCBs iff the containers are designed and constructed in a manner that will provide as much protection against leaking and exposure to the environment as the DOT Specification containers, and are of the same relative strength and durability as the DOT Specification containers.
 - (7) Storage containers for Miquid PCBs can be larger than the containers specified in paragraph (c)(6) of this section provided that:
 - (i) The containers are designed, constructed, and operated in compliance with Occupational Safety and Health Standards, 29 CFR 1911 10%. Floremoble and combustible biquads. Before using these containers for storing PCBs, the design of the containers must be reviewed to determine the effect on the structural suffery of the

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containers that will result from placing liquids with the specific gravity of PCBs into the containers (see 29 CFR 1910.106(b)(i)(f)).

- (ii) The owners or operators of any facility using containers described in paragraph (c)(7)(i) of this section shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan as described in Part 112 of this title. In complying with 40 CFR Part 112, the owner or operator shall read "oil(s)" as "PCB(s)" whenever it appears. The exemptions for storage capacity, 40 CFR 112.1(d)(2), and the amendment of SPCC plans by the Regional Administrator, 40 CFR 112.4, shall not apply unless some fraction of the liquids stored in the container are oils as defined by section 311 of the Clean Water Act.
- (8) PĆB Articles and PCB Containers shall be dated on the article or container when they are placed in storage. The storage shall be managed so that the PCB Articles and PCB Containers can be located by the date they entered storage. Storage containers provided in paragraph (c)(7) of this section shall have a record that includes for each batch of PCBs the quantity of the batch and date the batch was added to the container. The record shall also include the date, quantity, and disposition of any batch of PCBs removed from the container.
- (9) Owners or operators of storage facilities shall establish and maintain records as provided in § 761.80.

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37359, Aug. 8, 1982]

§ 761.70 Incineration.

(a) Liquid PCBs. An incinerator used for incinerating PCBs shall be approved by an EPA Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances pursuant to paragraph (d) of this section. Requests for approval of incinerators to be used in more than one region must be submitted to the Assistant Administrator for Pesticides and Toxic Substances, except for research and development involving less than 500 pounds of PCB material (see section 761.60(i)(2)). Requests for approval of incinerators to be used in

only one region must be submitted to the appropriate Regional Administrator. The incinerator shall meet all of the requirements specified in paragraph (a) (1) through (9) of this section, unless a waiver from these requirements is obtained pursuant to paragraph (d)(5) of this section. In addition, the incinerator shall meet any other requirements which may be prescribed pursuant to paragraph (d)(4) of this section.

- (1) Combustion criteria shall be either of the following:
- (i) Maintenance of the introduced liquids for a 2-second dwell time at 1200°C(±100°C) and 3 percent excess oxygen in the stack gas; or
- (ii) Maintenance of the introduced liquids for a 1½ second dwell time at 1600°C(±100°C) and 2 percent excess oxygen in the stack gas.
- (2) Combustion efficiency shall be at least 99.9 percent computed as follows:

Combustion efficiency = $Cco_2/Cco_2 + Cco \times 100$

where

Cco₁=Concentration of carbon dioxide. Cco=Concentration of carbon monoxide.

- (3) The rate and quantity of PCBs which are fed to the combustion system shall be measured and recorded at regular intervals of no longer than 15 minutes.
- (4) The temperatures of the incineration process shall be continuously measured and recorded. The combustion temperature of the incineration process shall be based on either direct (pyrometer) or indirect (wall thermocouple-pyrometer correlation) temperature readings.
- (5) The flow of PCBs to the incinerator shall stop automatically whenever the combustion temperature drops below the temperatures specified in paragraph (a)(1) of this section.
- (6) Monitoring of stack emission products shall be conducted:
- (i) When an incinerator is first used for the disposal of PCBs under the provisions of this regulation;
- (ii) When an incinerator is first used for the disposal of PCBs after the incinerator has been modified in a manner which may affect the characteristics of the stack emission products; and

- (iii) At a minimum such monitoring shall be conducted for the following parameters: (a)O₂; (b) CO; (c) CO₂; (d) Oxides of Nitrogen (NO₂); (e) Hydrochloric Acid (HCl); (f) Total Chlorinated Organic Content (RCl); (g) PCBs; and (h) Total Particulate Matter.
- (7) At a minimum monitoring and recording of combustion products and incineration operations shall be conducted for the following parameters whenever the incinerator is incinerating PCBs: (i) O₂; (ii) CO; and (iii) CO₂. The monitoring for O₂ and CO shall be continuous. The monitoring for CO₂ shall be periodic, at a frequency specified by the Regional Administrator or Assistant Administrator for Pesticides and Toxic Substances.
- (8) The flow of PCBs to the incinerator shall stop automatically when any one or more of the following conditions occur, unless a contingency plan is submitted by the incinerator owner or operator and approved by the Regional Administrator or Assistant Administrator for Pesticides and Toxic Substances. The contingency plan indicates what alternative measures the incinerator owner or operator would take if any of the following conditions occur:
- (i) Failure of monitoring operations specified in paragraph (a)(7) of this section;
- (ii) Failure of the PCB rate and quantity measuring and recording equipment specified in paragraph (a)(3) of this section; or
- (iii) Excess oxygen falls below the percentage specified in paragraph (a)(1) of this section.
- (9) Water scrubbers shall be used for HCl control during PCB incineration and shall meet any performance requirements specified by the appropriate EPA Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances. Scrubber effluent shall be monitored and shall comply with applicable effluent or pretreatment standards, and any other State and Federal laws and regulations. An alternate method of HCl control may be used if the alternate method has been approved by the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances. (The HCl neutralizing ca-

- pability of cement kilns is considered to be an alternate method.)
- (b) Nonliquid PCBs. An incinerator used for incinerating nonliquid PCBs, PCB Articles, PCB Equipment, or PCB Containers shall be approved by the appropriate EPA Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances pursuant to paragraph (d) of this section. Requests for approval of incinerators to be used in more than one region must be submitted to the Assistant Administrator for Pesticides and Toxic Substances, except for research and development involving less than 500 pounds of PCB material (see section 761.60(i)(2)). Requests for approval of incinerators to be used in only one region must be submitted to the appropriate Regional Administrator. The incinerator shall meet all of the requirements specified in paragraphs (b) (1) and (2) of this section unless a waiver from these requirements is obtained pursuant to paragraph (d)(5) of this section. In addition, the incinerator shall meet any other requirements that may be prescribed pursuant to paragraph (d)(4) of this section.
- (1) The mass air emissions from the incinerator shall be no greater than 0.001g PCB/kg of the PCB introduced into the incinerator.
- (2) The incinerator shall comply with the provisions of paragraphs (a)(2), (3), (4), (6), (7), (8)(i) and (ii), and (9) of this section.
- (c) Maintenance of data and records. All data and records required by this section shall be maintained in accordance with § 761.80, Records and monitoring.
- (d) Approval of incinerators. Prior to the incineration of PCBs and PCB Items the owner or operator of an incinerator shall receive the written approval of the Agency Regional Administrator for the region in which the incinerator is located, or the Assistant Administrator for Pesticides and Toxic Substances. Approval from the Assistant Administrator for Pesticides and Toxic Substances may be effective in all ten EPA regions. Such approval shall be obtained in the following manner:
- (1) Application. The owner or operator shall submit to the Regional Ad-

ministrator or the Assistant Administrator an application which contains:

- (i) The location of the incinerator;
- (ii) A detailed description of the incinerator including general site plans and design drawings of the incinerator;
- (iii) Engineering reports or other information on the anticipated performance of the incinerator;
- (iv) Sampling and monitoring equipment and facilities available;
- (v) Waste volumes expected to be incinerated:
- (vi) Any local, State, or Federal permits or approvals; and
- (vii) Schedules and plans for complying with the approval requirements of this regulation.
- (2) Trial burn. (i) Following receipt of the application described in paragraph (d)(1) of this section, the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances shall determine if a trial burn is required and notify the person who submitted the report whether a trial burn of PCBs and PCB Items must be conducted. The Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances may require the submission of any other information that the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances finds to be reasonably necessary to determine the need for a trial burn. Such other information shall be restricted to the types of information required in paragraphs (d)(1) (i) through (vii) of this section.
- (ii) If the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances determines that a trial burn must be held, the person who submitted the report described in paragraph (d)(1) of this section shall submit to the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances a detailed plan for conducting and monitoring the trial burn. At a minimum, the plan must include:
- (A) Date trial burn is to be conducted:
- (B) Quantity and type of PCBs and PCB Items to be incinerated;
- (C) Parameters to be monitored and location of sampling points;

- (D) Sampling frequency and methods and schedules for sample analyses; and
- (E) Name, address, and qualifications of persons who will review analytical results and other pertinent data, and who will perform a technical evaluation of the effectiveness of the trial burn.
- (iii) Following receipt of the plan described in paragraph (d)(2)(ii) of this section, the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances will approve the plan, require additions or modifications to the plan, or disapprove the plan. If the plan is disapproved, the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances will notify the person who submitted the plan of such disapproval, together with the reasons why it is disapproved. That person may thereafter submit a new plan in accordance with paragraph (d)(2)(ii) of this section. If the plan is approved (with any additions or modifications which the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances may prescribe), the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances will notify the person who submitted the plan of the approval. Thereafter, the trial burn shall take place at a date and time to be agreed upon between the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances and the person who submitted the plan.
- (3) Other information. In addition to the information contained in the report and plan described in paragraphs (d) (1) and (2) of this section, the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances may require the owner or operator to submit any other information that the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances finds to be reasonably necessary to determine whether an incinerator shall be approved.

Note: The Regional Administrator will have available for review and inspection an Agency manual containing information on

sampling methods and analytical procedures for the parameters required in § 761.70(a) (3), (4), (6), and (7) plus any other parameters he/she may determine to be appropriate. Owners or operators are encouraged to review this manual prior to submitting any report required in § 761.70.

- (4) Contents of approval. (i) Except as provided in paragraph (d)(5) of this section, the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances may not approve an incinerator for the disposal of PCBs and PCB Items unless he finds that the incinerator meets all of the requirements of paragraphs (a) and/or (b) of this section.
- (ii) In addition to the requirements of paragraphs (a) and/or (b) of this section, the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances may include in an approval any other requirements that the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances finds are necessary to ensure that operation of the incinerator does not present an unreasonable risk of injury to health or the environment from PCBs. Such requirements may include a fixed period of time for which the approval is valid.
- (5) Waivers. An owner or operator of the incinerator may submit evidence to the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances that operation of the incinerator will not present an unreasonable risk of injury to health or the environment from PCBs, when one or more of the requirements of paragraphs (a) and/or (b) of this section are not met. On the basis of such evidence and any other available information, the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances may in his/her discretion find that any requirement of paragraphs (a) and (b) of this section is not necessary to protect against such a risk, and may waive the requirements in any approval for that incinerator. Any finding and waiver under this paragraph must be stated in writing and included as part of the approval.
- (6) Persons approved. An approval will designate the persons who own and who are authorized to operate the

- incinerator, and will apply only to such persons, except as provided in paragraph (d)(8) of this section.
- (7) Final approval. Approval of an incinerator will be in writing and signed by the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances. The approval will state all requirements applicable to the approved incinerator.
- (8) Transfer of property. Any person who owns or operates an approved incinerator must notify EPA at least 30 days before transferring ownership in the incinerator or the property it stands upon, or transferring the right to operate the incinerator. The transferor must also submit to EPA, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor's EPA incinerator approval. Within 30 days of receiving such notification and affidavit, EPA will issue an amended approval substituting the transferee's name for the transferor's name, or EPA may require the transferee to apply for a new incinerator approval. In the latter case, the transferee must abide by the transferor's EPA approval until EPA issues the new approval to the transferee.

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 48 FR 13185, Mar. 30, 1983]

§ 761.75 Chemical waste landfills.

- (a) General. A chemical waste landfill used for the disposal of PCBs and PCB Items shall be approved by the Agency Regional Administrator pursuant to paragraph (c) of this section. The landfill shall meet all of the requirements specified in paragraph (b) of this section, unless a waiver from these requirements is obtained pursuant to paragraph (c)(4) of this section. In addition, the landfill shall meet any other requirements that may be prescribed pursuant to paragraph (c)(3) of this section.
- (b) Technical requirements. Requirements for chemical waste landfills used for the disposal of PCBs and PCB Items are as follows:
- (1) Soils. The landfill site shall be located in thick, relatively impermeable

formations such as large-area clay pans. Where this is not possible, the soil shall have a high clay and silt content with the following parameters:

- (i) In-place soil thickness, 4 feet or compacted soil liner thickness, 3 feet;
- (ii) Permeability (cm/sec), equal to or less than 1×10^{-7} ;
- (iii) Percent soil passing No. 200 Sieve, >30;
 - (iv) Liquid Limit, >30; and
 - (v) Plasticity Index >15.
- (2) Synthetic membrane liners. Synthetic membrane liners shall be used when, in the judgment of the Regional Administrator, the hydrologic or geologic conditions at the landfill require such a liner in order to provide at least a permeability equivalent to the soils paragraph (b)(1)of section. Whenever a synthetic liner is used at a landfill site, special precautions shall be taken to insure that its integrity is maintained and that it is chemically compatible with PCBs. Adequate soil underlining and soil cover shall be provided to prevent excessive stress on the liner and to prevent rupture of the liner. The liner must have a minimum thickness of 30 mils.
- (3)*Hydrologic* conditions. The bottom of the landfill shall be above the historical high groundwater table as provided below. Floodplains, shorelands, and groundwater recharge areas shall be avoided. There shall be no hydraulic connection between the site and standing or flowing surface water. The site shall have monitoring wells and leachate collection. The bottom of the landfill liner system or natural inplace soil barrier shall be at least fifty feet from the historical high water table.
- (4) Flood protection. (i) If the landfill site is below the 100-year floodwater elevation, the operator shall provide surface water diversion dikes around the perimeter of the landfill the with a minimum height equal to two feet above the 100-year floodwater elevation.
- (ii) If the landfill site is above the 100-year floodwater elevation, the operators shall provide diversion structures capable of diverting all of the surface water runoff from a 24-hour, 25-year storm.

- (5) Topography. The landfill site shall be located in an area of low to moderate relief to minimize erosion and to help prevent landslides or slumping.
- (6) Monitoring systems—(i) Water sampling. (A) For all sites receiving PCBs, the ground and surface water from the disposal site area shall be sampled prior to commencing operations under an approval provided in paragraph (c) of this section for use as baseline data.
- (B) Any surface watercourse designated by the Regional Administrator using the authority provided in paragraph (c)(3)(ii) of this section shall be sampled at least monthly when the landfill is being used for disposal operations.
- (C) Any surface watercourse designated by the Regional Administrator using the authority provided in paragraph (c)(3)(ii) of this section shall be sampled for a time period specified by the Regional Administrator on a frequency of no less than once every six months after final closure of the disposal area.
- (ii) Groundwater monitor wells. (A) If underlying earth materials are homogenous, impermeable, and uniformly sloping in one direction, only three sampling points shall be necessary. These three points shall be equally spaced on a line through the center of the disposal area and extending from the area of highest water table elevation to the area of the lowest water table elevation on the property.
- (B) All monitor wells shall be cased and the annular space between the monitor zone (zone of saturation) and the surface shall be completely backfilled with Portland cement or an equivalent material and plugged with Portland cement to effectively prevent percolation of surface water into the well bore. The well opening at the surface shall have a removable cap to provide access and to prevent entrance of rainfall or stormwater runoff. The well shall be pumped to remove the volume of liquid initially contained in the well before obtaining a sample for analysis. The discharge shall be treated to meet applicable State or Federal discharge standards or recycled to the chemical waste landfill.

- (iii) Water analysis. As a minimum, all samples shall be analyzed for the following parameters, and all data and records of the sampling and analysis shall be maintained as required in § 761.80(d)(1). Sampling methods and analytical procedures for these parameters shall comply with those specified in 40 CFR Part 136 as amended in 41 FR 52779 on December 1, 1976.
 - (A) PCBs.
 - (B) pH.
 - (C) Specific conductance.
 - (D) Chlorinated organics.
- (7) Leachate collection. A leachate collection monitoring system shall be installed above the chemical waste landfill. Leachate collection systems shall be monitored monthly for quantity and physicochemical characteristics of leachate produced. The leachate should be either treated to acceptable limits for discharge in accordance with a State or Federal permit or disposed of by another State or Federally approved method. Water analysis shall be conducted as provided in paragraph (b)(6)(iii) of this section. Acceptable leachate monitoring/collection systems shall be any of the following designs, unless a waiver is obtained pursuant to paragraph (c)(4) of this sec-
- (i) Simple leachate collection. This system consists of a gravity flow drainfield installed above the waste disposal facility liner. This design is recommended for use when semi-solid or leachable solid wastes are placed in a lined pit excavated into a relatively thick, unsaturated, homogenous layer of low permeability soil.
- (ii) Compound leachate collection. This system consists of a gravity flow drainfield installed above the waste disposal facility liner and above a secondary installed liner. This design is recommended for use when semi-liquid or leachable solid wastes are placed in a lined pit excavated into relatively permeable soil.
- (iii) Suction lysimeters. This system consists of a network of porous ceramic cups connected by hoses/tubing to a vacuum pump. The porous ceramic cups or suction lysimeters are installed along the sides and under the bottom of the waste disposal facility liner. This type of system works best when

- installed in a relatively permeable umsaturated soil immediately adjustent to the bottom and/or sides of the disposal facility.
- (8) Chemical waste landfill operations. (i) PCBs and PCB Herrs shall be placed in a landfill in a marmer that will prevent damage to containers or articles. Other wastes placed in the landfill that are not chemically compatible with PCBs and PCB Herrs including organic solvents shall be segregated from the PCBs throughout the waste handling and disposal process.
- (ii) An operation plan shall be developed and submitted to the Regional Administrator for approval as required in paragraph (c) of this section. This plan shall include detailed exclamations of the procedures to be used for recordkeeping, surface water handling procedures, excavation and tackfilling waste segregation burial coordinates. vehicle and equipment movement, use of roadways, leachate collection systems, sampling and monitoring procedures, monitoring wells, environmental emergency contingency plants, and security measures to protect against vandalism and unauthorized waste placements. EPA guidelines emittled "Thermal Processing and Land Disposal of Solid Waste" (39 FR 25337, Aug. 14, 1974) are a useful reference in preparation of this plan. If the faullity is to be used to dispose of liquid wisites containing between 50 ppm and 500 ppm PCB, the operations plan must include procedures to determine that liquid PCBs to be disposed off and the landfill do not exceed 500 pgm PCB and meaures to prevent the migration of PCBs from the landfill. Bulk liquids not exceeding 500 ppm PCBs may be disposed of provided such waste is pretreated and/or stabilized (e.g., themically fixed, evaporated, mixed with dry inert absorbant) to recture its liquid content or increase its sollid comtent so that a non-flowing consistency is achieved to eliminate the presence of free liquids prior to final disposal in a landfill. PCB Container of liquid PCBs with a concentration between 50 and 500 ppm PCB may be dispussed of if each container is surrounded by an amount of inert sorbant material crapable of absorbing all of the liquid comtents of the container.

- (iii) Ignitable wastes shall not be disposed of in chemical waste landfills. Liquid ignitable wastes are wastes that have a flash point less than 60 degrees C (140 degrees F) as determined by the following method or an equivalent method: Flash point of liquids shall be determined by a Pensky-Martens Closed Cup Tester, using the protocol specified in ASTM Standard D-93-80, or the Setaflash Closed Tester using the protocol specified in ASTM Standard D-3278-78.
- (iv) Records shall be maintained for all PCB disposal operations and shall include information on the PCB concentration in liquid wastes and the three dimensional burial coordinates for PCBs and PCB Items. Additional records shall be developed and maintained as required in § 761.80.
- (9) Supporting facilities. (i) A six foot woven mesh fence, wall, or similar device shall be placed around the site to prevent unauthorized persons and animals from entering.
- (ii) Roads shall be maintained to and within the site which are adequate to support the operation and maintenance of the site without causing safety or nuisance problems or hazardous conditions.
- (iii) The site shall be operated and maintained in a manner to prevent safety problems or hazardous conditions resulting from spilled liquids and windblown materials.
- (c) Approval of chemical waste landfills. Prior to the disposal of any PCBs and PCB Items in a chemical waste landfill, the owner or operator of the landfill shall receive written approval of the Agency Regional Administrator for the Region in which the landfill is located. The approval shall be obtained in the following manner:
- (1) Initial report. The owner or operator shall submit to the Regional Administrator an initial report which contains:
 - (i) The location of the landfill;
- (ii) A detailed description of the landfill including general site plans and design drawings;
- (iii) An engineering report describing the manner is which the landfill complies with the requirements for chemical waste landfills specified in paragraph (b) of this section;

- (iv) Sampling and monitoring equipment and facilities available:
 - (v) Expected waste volumes of PCBs;
- (vi) General description of waste materials other than PCBs that are expected to be disposed of in the landfill:
- (vii) Landfill operations plan as required in paragraph (b) of this section;
- (viii) Any local, State, or Federal permits or approvals; and
- (ix) Any schedules or plans for complying with the approval requirements of these regulations.
- (2) Other information. In addition to the information contained in the report described in paragraph (c)(1) of this section, the Regional Administrator may require the owner or operator to submit any other information that the Regional Administrator finds to be reasonably necessary to determine whether a chemical waste landfill should be approved. Such other information shall be restricted to the types of information required in paragraphs (c)(1) (i) through (ix) of this section.
- (3) Contents of approval. (i) Except as provided in paragraph (c)(4) of this section the Regional Administrator may not approve a chemical waste landfill for the disposal of PCBs and PCB Items, unless he finds that the landfill meets all of the requirements of paragraph (b) of this section.
- (ii) In addition to the requirements of paragraph (b) of this section, the Regional Administrator may include in an approval any other requirements or provisions that the Regional Administrator finds are necessary to ensure that operation of the chemical waste landfill does not present an unreasonable risk of injury to health or the environment from PCBs. Such provisions may include a fixed period of time for which the approval is valid.

The approval may also include a stipulation that the operator of the chemical waste landfill report to the Regional Administrator any instance when PCBs are detectable during monitoring activities conducted pursuant to paragraph (b)(6) of this section.

(4) Waivers. An owner or operator of a chemical waste landfill may submit evidence to the Regional Administrator that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs when one or more of the requirements of paragraph (b) of this section are not met. On the basis of such evidence and any other available information, the Regional Administrator may in his discretion find that one or more of the requirements of paragraph (b) of this section is not necessary to protect against such a risk and may waive the requirements in any approval for that landfill. Any finding and waiver under this paragraph will be stated in writing and included as part of the approval.

- (5) Persons approved. Any approval will designate the persons who own and who are authorized to operate the chemical waste landfill, and will apply only to such persons, except as provided by paragraph (c)(7) of this section.
- (6) Final approval. Approval of a chemical waste landfill will be in writing and will be signed by the Regional Administrator. The approval will state all requirements applicable to the approved landfill.
- (7) Transfer of property. Any person who owns or operates an approved chemical waste landfill must notify EPA at least 30 days before transferring ownership in the property or transferring the right to conduct the chemical waste landfill operation. The transferor must also submit to EPA, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor's EPA chemical waste landfill approval. Within 30 days of receiving such notification and affidavit, EPA will issue an amended approval substituting the transferee's name for the transferor's name, or EPA may require the transferee to apply for a new chemical waste landfill approval. In the latter case, the transferee must abide by the transferor's EPA approval until EPA issues the new approval to the transfatt.

144 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 48 FR 5730, Feb. 8, 19831

§ 761.79 Decontamination.

(a) Any PCB Container to be decontaminated shall be decontaminated by flushing the internal surfaces of the

container three times with a solvent containing less than 50 ppm PCB. The solubility of PCBs in the solvent must be five percent or more by weight. Each rinse shall use a volume of the normal diluent equal to approximately ten (10) percent of the PCB Container capacity. The solvent may be reused for decontamination until it contains 50 ppm PCB. The solvent shall then be disposed of as a PCB in accordance with § 761.60(a). Non-liquid PCBs resulting from the decontamination procedures shall be disposed of in accordprovisions ance with the § 761.60(a)(4).

(b) Movable equipment used in storage areas shall be decontaminated by swabbing surfaces that have contacted PCBs with a solvent meeting the criteria of paragraph (a) of this section.

Note: Precautionary measures should be taken to ensure that the solvent meets safety and health standards as required by applicable Federal regulations.

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982]

Subparts E-I—[Reserved]

Subpart J—Records and Reports

§ 761.180 Records and monitoring.

(a) PCBs and PCB Items in service or projected for disposal. Beginning July 2, 1978, each owner or operator of a facility using or storing at one time at least 45 kilograms (99.4 pounds) of PCBs contained in PCB Container(s) or one or more PCB Transformers, or 50 or more PCB Large High or Low Voltage Capacitors shall develop and maintain records on the disposition of PCBs and PCB Items. These records shall form the basis of an annual document prepared for each facility by July 1 covering the previous calendar year. Owners or operators with one or more facilities that use or store PCBs and PCB Items in the quantities described above may maintain the records and documents at one of the facilities that is normally occupied for 8 hours a day, provided the identity of this facility is available at each facility using or storing PCBs and PCB Items. The records and documents shall be

maintained for at least five years after the facility ceases using or storing PCBs and PCB Items in the prescribed quantities. The following information for each facility shall be included in the annual document:

- (1) The dates when PCBs and PCB Items are removed from service, are placed into storage for disposal, and are placed into transport for disposal. The quantities of the PCBs and PCB Items shall be indicated using the following breakdown:
- (i) Total weight in kilograms of any PCBs and PCB Items in PCB Containers including the identification of container contents such as liquids and capacitors;
- (ii) Total number of PCB Transformers and total weight in kilograms of any PCBs contained in the transformers; and
- (iii) Total number of PCB Large High or Low Voltage Capacitors.
- (2) For PCBs and PCB Items removed from service, the location of the initial disposal or storage facility and the name of the owner or operator of the facility.
- (3) Total quantities of PCBs and PCB Items remaining in service at the end of the calendar year using the following breakdown:
- (i) Total weight in kilograms of any PCBs and PCB Items in PCB Containers, including the identification of container contents such as liquids and capacitors:
- (ii) Total number of PCB Transformers and total weight in kilograms of any PCBs contained in the transformers; and
- (iii) Total number of PCB Large High or Low Voltage Capacitors.
- (b) Disposal and storage facilities. Each owner or operator of a facility (including high efficiency boiler operations) used for the storage or disposal of PCBs and PCB Items shall by July 1, 1379 and each July 1 thereafter prepare and maintain a document that includes the information required in paragraph (b)(1) thru (4) of this section for PCBs and PCB Items that were handled at the facility during the previous calendar year. The document shall be retained at each facility for at least 5 years after the facility is no longer used for the storage or disposal

of PCBs and PCB Items except that in the case of chemical waste landfills, the document shall be maintained at least 20 years after the chemical waste landfill is no longer used for the disposal of PCBs and PCB Items. The documents shall be available at the facility for inspection by authorized representatives of the Environmental Protection Agency. If the facility ceases to be used for PCB storage or disposal, the owner or operator of such facility shall notify within 60 days the EPA Regional Administrator of the region in which the facility is lucated that the facility has ceased storage or disposal operations. The notice shall specify where the documents that are required to be maintained by this paragraph are located. The following information shall be included in each document:

- (1) The date when any PCBs and PCB Items were received by the facility during the previous calendar year for storage or disposal, and identification of the facility and the owner or operator of the facility from whom the PCBs were received;
- (2) The date when any PCBs and PCB Items were disposed of at the disposal facility or transferred to another disposal or storage facility, including the identification of the specific types of PCBs and PCB Items that were stored or disposed of;
- (3) A summary of the total weight in kilograms of PCBs and PCB Articles in containers and the total weight of PCBs contained in PCB Transformers, that have been handled at the facility during the previous calendar year. This summary shall provide totals of the above PCBs and PCB Items which have been:
 - (i) Received during the year;
- (ii) Transferred to other facilities during the year; and
- (iii) Retained at the facility at the end of the year. In addition the contents of PCB Containers shall be identified. When PCB Containers and PCBs contained in a transformer are transferred to other storage or disposal facilities, the identification of the facility to which such PCBs and PCB Items were transferred shall be included in the document.

(4) Total number of any PCB Articles or PCB Equipment not in PCB Containers, received during the calendar year, transferred to other storage or disposal facilities during the calendar year, or remaining on the facility site at the end of the calendar year. The identification of the specific types of PCB Articles and PCB Equipment received, transferred, or remaining on the facility site shall be indicated. When PCB Articles and PCB Equipment are transferred to other storage or disposal facilities, the identification of the facility to which the PCB Articles and PCB Equipment were transferred must be included.

Note: Any requirements for weights in kilograms of PCBs may be calculated values if the internal volume of containers and transformers is known and included in the reports, together with any assumptions on the density of the PCBs contained in the containers or transformers.

- (c) Incineration facilities. Each owner or operator of a PCB incinerator facility shall collect and maintain for a period of 5 years from the date of collection the following information, in addition to the information required in paragraph (b) of this section:
- (1) When PCBs are being incinerated, the following continuous and short-interval data:
- (i) Rate and quantity of PCBs fed to the combustion system as required in § 761.70(a)(3):
- (ii) Temperature of the combustion process as required in § 761.70(a)(4); and
- (iii) Stack emission product to include O₁, CO, and CO₂ as required in § 761.70(a)(7).
- (2) When PCBs are being incinerated, data and records on the monitoring of stack emissions as required in § 761.70(a)(6).
- (3) Total weight in kilograms of any solid residues generated by the incineration of PCBs and PCB Items during the calendar year, the total weight in kilograms of any solid residues disposed of by the facility in chemical waste landfills, and the total weight in kilograms of any solid residues remaining on the facility site.
- (4) When PCBs and PCB Items are being incinerated, additional periodic data shall be collected and maintained

as specified by the Regional Administrator pursuant to § 761.70(d)(4).

- (5) Upon any suspension of the operation of any incinerator pursuant to § 761.70(a)(8), the owner or operator of such an incinerator shall prepare a document. The document shall, at a minimum, include the date and time of the suspension and an explanation of the circumstances causing the suspension of operation. The document shall be sent to the appropriate Regional Administrator within 30 days of any such suspension.
- (d) Chemical waste landfill facilities. Each owner or operator of a PCB chemical waste landfill facility shall collect and maintain until at least 20 years after the chemical waste landfill is no longer used for the disposal of PCBs the following information in addition to the information required in paragraph (b) of this section:
- (1) Any water analysis obtained in compliance with § 761.75(b)(6)(iii); and
- (2) Any operations records including burial coordinates of wastes obtained in compliance with § 761.75(b)(8)(ii).
- (e) High efficiency boiler facilities. Each owner or operator of a high efficiency boiler used for the disposal of liquids between 50 and 500 ppm PCB shall collect and maintain for a period of 5 years the following information, in addition to the information required in paragraph (b) of this section:
- (1) For each month PCBs are burned in the boiler the carbon monoxide and excess oxygen data required in § 761.60(a)(2)(iii)(A)(8) and § 761.60(a)(3)(iii)(A)(8);
- (2) The quantity of PCBs burned each month as required in § 761.60(a)(2)(iii)(A)(7) and § 761.60(a)(3)(iii)(A)(7); and
- (3) For each month PCBs (other than mineral oil dielectric fluid) are burned, chemical analysis data of the waste as required in § 761.60(a)(3) (iii)(B)(6).
- (f) Retention of special records by storage and disposal facilities. In addition to the information required to be maintained under paragraphs (b), (c), (d) and (e) of this section, each owner or operator of a PCB storage or disposal facility (including high efficiency boiler operations) shall collect and maintain for the time period specified

- (i) The concentration of PCBs in process wastes is below 2 micrograms per gram resolvable gas chromatographic peak.
- (ii) All process wastes are either incinerated in a qualified incinerator (see the definition of "Qualified incinerator" under § 761.3), landfilled in a landfill approved under § 761.75, or stored for such incineration or landfilling in accordance with the requirements of § 761.65(b)(1).
- (c) The certification must be signed by a responsible corporate officer. This certification must be filed at each facility in which a closed or controlled waste process is operating for a period of three years after a process ceases operation or for seven years, whichever is shorter, and must be made available to EPA upon request. For the purpose of this section, a responsible corporate officer means:
- (1) A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.
- (2) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25,000,000 (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- (d) This certification process must be repeated whenever process conditions are significantly modified to make the previous certification no longer valid. Significant modifications include changing disposal mechanisms or facilities for the disposal of controlled wastes.
- (e) Any person signing a document under paragraph (b) (1) through (4) of this section shall also make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information is, to the best of my knowledge

and belief, true, accurate, and complete. I am aware that there are significant penalties for falsifying information, including the possibility of fines and imprisonment for knowing violations.

Dated: -	 .
Signature	

- (f) Manufacturers operating closed and controlled waste manufacturing processes shall transmit a letter to EPA notifying EPA of:
- (1) The number, the type, and the location of the closed and controlled waste manufacturing processes.
- (2) Whether the determinations that the processes qualify for exclusion are based on theoretical assessments or on actual monitoring of PCB levels in releases.
- (3) The type, the name, and the location of the waste disposal facility, if the process is a controlled waste manufacturing process.

[47 FR 46996, Oct. 21, 1982, as amended at 49 FR 25242, June 20, 1984]

in paragraph (b) of this section the following data:

- (1) All documents, correspondence, and data that have been provided to the owner or operator of the facility by any State or local government agency and that pertain to the storage or disposal of PCBs and PCB Items at the facility.
- (2) All documents, correspondence, and data that have been provided by the owner or operator of the facility to any State or local government agency and that pertain to the storage or disposal of PCBs and PCB Items at the facility.
- (3) Any applications and related correspondence sent by the owner or operator of the facility to any local, State, or Federal authorities in regard to waste water discharge permits, solid waste permits, building permits, or other permits or authorizations such as those required by §§ 761.70(d) and 761.41(c).

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and 47 FR 37360, Aug. 25, 1982]

- § 761.185 Certification program and retention of special records by persons generating PCBs in closed manufacturing processes and controlled waste manufacturing processes.
- (a) In addition to meeting the basic requirements of § 761.1(f), PCB-generating manufacturing processes shall be considered "closed manufacturing processes" or "controlled waste manufacturing processes" (and thus, be excluded from the TSCA section 6(e) ban on manufacture), only if the owner/operator of the manufacturing facility:
- (1) Performs either a theoretical analysis of PCB levels in releases or conducts actual sampling of PCB levels in releases.
- (2) Determines that the disposal factify is qualified for the disposal of controlled wastes under the definition of "Qualified incinerator" under § 761.3 (for controlled waste processes only).
- (3) Maintains (for a period of 3 years after a process ceases operations or for 7 years, whichever is shorter) records containing the following information on the processes:

- (i) Theoretical analysis. (A) The reaction or reactions believed to be producing the PCBs, the levels of PCBs generated, and the levels of PCBs released.
- (B) The basis for all estimations of PCB concentrations.
- (C) The name and qualifications of the person or persons performing the theoretical analysis.
- (ii) Actual monitoring. (A) The method of analysis.
- (B) The results of the analysis, including data from the Quality Assurance Plan.
- (C) The name of the analyst or analysts.
- (D) The date and time of the analysis.
- (iii) Qualifications of the disposal facility. (A) The type of disposal facility.
- (B) The name of the disposal facility.
- (C) The location of the disposal facility.
- (D) If the disposal facility is a RCRA-approved incinerator, the basis for the determination that the incinerator qualifies for the destruction of the PCB wastes to be destroyed.
- (b) The data collected, and the analysis performed under paragraph (a) of this section must support the following certification if the processes are to be excluded under the closed manufacturing process and controlled waste manufacturing process exclusion. Persons desiring exclusion of a PCB-generating process under the closed and controlled waste process exclusion shall certify that:
- (1) An analysis of the manufacturing process for PCB levels and releases (either theoretical or through actual monitoring for PCBs) has been completed.
- (2) The analysis of the manufacturing process is on record at the facility.
- (3) The concentration of PCBs in air emissions is below 10 micrograms per cubic meter per resolvable gas chromatographic peak; in water effluents, below 100 micrograms per liter per resolvable gas chromatographic peak; and in products, below 2 micrograms per gram per resolvable gas chromatographic peak.
 - (4) Either:

- (2) The concentration of inadvertently generated PCBs in the components of detergent bars leaving the manufacturing site or imported into the United States must be less than 5 ppm.
- (3) The release of inadvertently generated PCBs at the point at which emissions are vented to ambient air must be less than 10 ppm.
- (4) The amount of inadvertently generated PCBs added to water discharged from a manufacturing site must be less than 100 micrograms per resolvable gas chromatographic peak per liter of water discharged.

"PCB" and "PCBs" means any.—
chemical substance that is limited to the popular incidence of the popular incidence of the popular incidence of the popular incidence of the popular incidence of PCBs. PCB and PCBs as contained in PCB items are defined in \$ 761.3. For any purposes under this Part, inadvertently generated non-Aroclor PCBs are defined as the total PCBs calculated following division of the quantity of monochlorinated biphenyls by 50 and dichlorinated biphenyls by 5.

"PCB Item" is defined as any PCB
Article, PCB Article Container, PCB
Container, or PCB Equipment, that
deliberately or unintentionally contains
or has a part of it any PCB or PCBs.

"Recycled PCBs" are defined as those intentionally manufactured PCBs which appear in the processing of paper products or asphalt roofing materials as PCB-contaminated raw materials and which meet the requirements of (1) through (5) of this definition.

- (1) The concentration of Aroclor PCBs in paper products leaving any manufacturing site or imported into the United States must have an annual array average of less than 25 ppm with a 50 type ppm maximum.
- (2) There are no detectable ... concentrations of Aroclor PCBs in asphalt roofing materials.
- (3) The release of Aroclor PCBs at the point at which emissions are vented to ambient air must be less than 10 ppm.
- (4) The amount of Aroclor PCBs added to water discharged from a processing site must at all times be less than 3 micrograms per liter ($\mu g/l$) for total Aroclors (roughly 3 parts per billion (3 ppb)).

- (5) Disposal of any other process wastes above concentrations of 50 ppm PCB must be in accordance with Subpart D of this part.
- 3. In § 761.20 the fourth sentence of the introductory text, paragraphs (a), (b)(1) and (b)(2), the introductory text of paragraph (c), and paragraphs (c)(1) and (c)(2) are revised; and paragraph (c)(4) is added to read as follows:

§ 761.20 Prohibitions.

- hereby finds, under the authority of section 12(a)(2) of TSCA, that the manufacture, processing, and distribution in commerce for export from the United States of PCBs at concentrations of 50 ppm or greater and of PCB Items with PCB concentrations of 50 ppm or greater presents an unreasonable risk of injury to health within the United States.
- (a) No person may use any PCB, or any PCB Item regardless of concentration, in any manner other than in a totally enclosed manner within the United States unless authorized under § 781.30, except that an authorization is not required to use those PCBs or PCB Items resulting from an excluded manufacturing process or recycled PCBs defined in § 781.3, provided all applicable conditions of § 781.1(f) are met.

 (b) * * *
- (1) No person may manufacture PCBs for use within the United States or manufacture PCBs for export from the United States without an exemption, except that an exemption is not required for PCBs manufactured in an excluded manufacturing process as defined in § 761.3, provided that all applicable
- conditions of \$ 781.1(f) are met.
 (2) PCBs at concentrations less than
 50 ppm may be imported or exported for
 purposes of disposal.
- (c) No person may process or distribute in commerce any PCB, or any PCB Item regardless of concentration, for use within the United States or for export from the United States without an exemption, except that an exemption is not required to process or distribute in commerce PCBs or PCB Items resulting from an excluded manufacturing process as defined in § 761.3, or to process or distribute in commerce recycled PCBs as defined in § 761 3 provided that all applicable conditions of § 761.1(f) are met.
- (1) PCBs at concentrations of 50 ppm or greater, or PCB Items with PCB concentrations of 50 ppm or greater, sold before July 1, 1979 for purposes other

- than result may be distributed in commerce only in a totally inclined; manner after that date.
- (2) PCBs at concentrations of 30 ppm or greater, or PCB Items with PCB concentrations of 50 ppm or greater may be processed and distributed in commerce in compliance with the requirements of this Part for purposes off disposal in accordance with the requirements of § 761.60.
- (4) PCBs, at concentrations of Ress. than 50 ppm, or PCB Items, with concentrations of less than Hyppm, may be processed and distributed in commerce for purposes of depression.
- 4. In § 781:30, paragraphs(sl), (a) and (i) are revised to read as follower.

§ 761.30 Authorizations.

- (d) Use in heat transfer systems After July 1, 1984, intentionally mendiactive in PCBs may be used in heat transfer systems in a manner other than a tutality enclosed manner at a concentration level of less than 50 ppm pravided that the requirements of paragraphs ((1))(11) through (7) of this section as med.
- (1) Each person who owns where transfer system that ever contained PCBs at concentrations above 30 ppm must test for the concentrations of ICMs in the heat transfer fluid of such a system no later than November 1. 1979 and at least annually therefore. All test sampling must be performed atthese three months after the most request fluid PCB concentration is less than 30 ppm, testing under this paragraph is nonlarger required.

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- (2) Within six months of a test performed under paragraph (d) (m) of this section that indicates that a system's fluid contains 50 ppm or greater FCB (0.005% on a dry weight bass), the system must be drained of the PCBs and refilled with fluid containing these than 50 ppm PCB. Topping-off with heat remainer fluids containing PCB concentuations of last than 50 ppm is permitted.
- (3) After November 1, 1979, no head transfer system that is used in the manufacture or processing Wany fund, drug cosmetic or device, as defined in section 201 of the Federal Food, May, and Cosmetic Act, may contain trainsfer fluid with 50 ppm or greater PCH (TOWNEY) on a dry weight basis).
- (4) Addition of fluids containing 配面 concentrations greater than 50:ppm m prohibited.

PART 781-[AMENOED]

Therefore, 40 CFR Part 751 is amended as fullows:

1...ln § 781.1, paragraphs (b) and (f) ores revised to read as follows:

§ 761.1 Applicability.

(b) This part applies to all persons who manufecture, process, distribute in commerce, use, or dispose of PCBs or PCB Items. Substances that are regulated by this rule include, but are not limited to, dielectric fluids. contaminated solvents, oils, waste oils; heat transfer fluids, hydraulic fluids, paints, sludges, slurnes, dredge spoils, soils, materials contaminated as a result of spills, and other chemical substances or combination of substances, including impurities and byproducts and any byproduct, intermediate or impurity manufactured at any point in a process. Most of the provisions of this part apply to PCBs only if PCBs are present in concentrations above a specified level. For example, Subpart D applies generally to materials at concentrations of 50 parts per million (ppm) and above. Also certain provisions of Subpart B apply to PCBs inadvertently generated in manufacturing processes at concentrations specified in the definition of "PCB" under § 781.3. No provision specifying a PCB concentration may be avoided as a result of any dilution, unless otherwise specifically provided.

- (f) Unless and until superseded by any new more stringent regulations issued under EPA authorities, or any permits or any pretreatment requirements issued by EPA, a state or local government that affect release of PCBs to any particular medium:
- (1) Persons who inadvertently manufacture or import PCBs generated as unintentional impurities in excluded manufacturing processes, as defined in \$761.3, are exempt from the requirements of Subpart B of this part, provided that such persons comply with Subpart J of this Part, as applicable.
- (2) Persons who process, distribute in commerce, or use products containing. PCBs generated in excluded manufacturing processes defined in \$ 751.3 are exempt from the requirements of Subpart B provided that such persons comply with Subpart } of this part, as applicable.
- (3) Persons who process, distribute in commerce, or use products containing recycled PCBs defined in § 751.3, are exempt from the requirements of Subpart B of this part, provided that such persons comply with Subpart J offsthis part, as applicable.
- 2. In § 781.3, the definitions of "closed y" manufacturing process" and "controlled waste manufacturing process" are removed the definitions of "excluded manufacturing process" and "recycled" PCBs" are added, and the definitions of "PCB" and "PCB Item" are revised to read as follows:

§ 781.3 Definitions.

"Closed manufacturing process" [Removed].

"Controlled waste manufacturing process" [Removed].

"Excluded manufacturing process" means a manufacturing process in which quantities of PCBs, as determined in accordance with the definition of inadvertently generated PCBs, calculated as defined, and from which releases to products, and, and water meeting the requirements of (1) through (5) of this definition, or the importation of products containing PCBs as unintentional impurities, which products meet the requirements of (1) and (2) of this definition.

(1) The concentration of inadvertently generated PCBs in products leaving any manufacturing site or imported into the United States must have an annual average of less than 25 ppm, with a 50 ppm maximum.

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icl uned for five years after the heat transfer system reaches 50 ppm PCB

(6) Each person who owns a heat transfer system that contains PCBs must provide workers with gloves made of viton elastomer to protect workers from dermal exposure to PCBs.

(7) All persons who maintain a heat transfer system must wear viton elastomer gloves while doing maintenance work on that system

(e) Use in hydraulic systems. After July 1, 1984, intentionally manufactured PCBs may be used in hydraulic systems in a manner other than a totally enclosed manner at a concentration level of less than 50 ppm provided that the requirements in paragraphs (e) (1) through (7) of the section are met.

(1) Each person who owns a hydraulic system that ever contained PCBs at concentrations above 50 ppm must test for the concentration of PCBs in the hydraulic flund of each system no later than November 1, 1979, and at least annually thereafter. All test sampling must be performed at least three months after the most recent fluid refilling When a test shows that the PCB. concentration is less than 50 ppm. testing under this paragraph is no longer required.

(2) Within six months of a test under paragraph (e)(1) of this section that indicates that a system's fluid contains 50 ppm or greater PCB (0 005% on a dry weight basis), the system must be drained of the PCBs and refilled with fluid containing less than 50 ppm PCB Topping-off with hydrantic fluids con aining PCB concentrations less than 50 ppm to reduce PCB concentrations is

permitted.

(3) Addition of PCBs at concentrations of greater than 50 ppm is prohibited.

(4) Hydraulic fluid may be dramed from a hydraulic system and filtered. distilled or otherwise serviced in order to reduce the PCB concentration below 71 ppm.

(a) Data obtained as a result of i ira graph (e)(1) of this section must be retained for five years after the hydraulic system reaches 50 ppm

- (6) Luch person who owns a hydraulic system that contains PCBs must provide gloves made of viton elastomer to pintert workers from dermal exposure to PCB4
- () All persons who maintain a hydraulic system that contains PCBs must wear viton elastomer gloves while do ng maintenance work on that system
- (1) Use in compressors and in the liquid of natural gas pipelines PCBs may be used indefinitely in the compressors and in the liquids of

natural gas pipelines at a concentration level of less than 50 ppm provided that they are marked in accordance with § 761 45(a)

5 In § 761 60, paragraphs (a)(1), the introductory text of (a)(4) and (a)(5) (a)(6), (b)(3) the introductor, text of (b)(5) (b)(6), the introductory text of (c)(1), (c)(3), and (d)(1) are revised to read as follows

§ 761 60 Disposal requirements.

- (a) PCBs (1) Except as provided in paragruphs (a) (2), (3), (4), and (5) of this section, PCBs at concentrations of 50 ppm or greater must be disposed of in an incinerator which complies with _ § 781.70c
- [4] Any non-liquid PCBs at 1. concentrations of 50 ppm or greater pa the form of contamnated seel, race, or other debris shall be disposed of:
- (5) All dredged meterials and muncipal sewage treatment sludges that contain PCBs at concentrations of 59 ppm or greater shall be disposed of:
- (6) When storage is desired prior to disposal, PCBs at concentrations of 50 ppm or greater shall be stored in a facility which complies with § 761.65

(b) * * *

- (3) PCB hydraulic machines. PCB hydraulic machines containing PCBs at concentrations of 50 ppm or greater such as die casting machines may be disposed of as municipal solid waste or salvage provided that the machines are drained of all free-flowing liquid and the liquid is disposed of in accordance with the provisions of paragraph (a) of this section. If the PCB liquid contains 1000 ppm PCB or greater, then the hydraulic machine must be flushed prior to disposal with a rolvent containing less tran 50 ppm PCF under transformer solvents at paragraph (o)(1)(i)(B) of this: section and the solvent disposed of in accordance with paragraph (a) of this section. --
- (5) Other PCB Articles PCB articles with concentrations at 50 ppm or greater must be disposed of
- (6) Storage of PCB Articles Except for a PCB Article described in paracraph (b)(2)(n) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section any PCB Article with PCB concentrations at 50 ppm or greater,

- shall be stored in accordance with \$ 761 65 prior to disposal
- (c) PCB Containers (1) Unless decontaminated in compliance with § 761 79 or as provided in paragraph (c)(2) of this section, a PCB container with PCB concentrations at 50 ppm or greater shall be disposed of
- (3) Prior to disposal, a PCB container with PCB concentrations at 50 ppm or greater shall be stored in a facility which complies with § 761 65.
- (d) Spills. (1) Spills and other uncontrolled discharges of PCBs at concentrations of 50 ppm or greater constitute the disposal of PCBs.~
- is. In § 761.85 the following introductory text is added at the beginning of the section:

§781.85 Storage for disposal.

This section applies to the storage for ? disposal of PCBs at concentrations of 50ppm or greater and PCB Items with PCB. concentrations of 50 ppm or greater...

7. In § 761 70, the following introductory text is added to thebeginning of the sections

§ 781 70 Incineration.

This section applies to facilities used to momerate PCBs required to be momerated by this part. -

8 In § 781 75, the following introductory text is added to the beginning of the section:

§ 761.75 Chemical waste lendfills.

Thus section applies to facilities used to dispose of PCBs in accordance with: tra part

a in § 781 180, the following introductory text is added to the tionen agor the sections

ក្ខី "81,130 Records and mointoring.

This section contams recordkeeping and reporting requirements that apoly rock PCBs, PCB items, and PCB storage and 🥃 🐃 disposal facilities that are subject to the requirements of the part. . . .

10 In § 781 185, the section is revised and OMB control number 2070-0008 is added to read as follows

§ 761 185 Certification program and retention or records by importers and persons generating PCBs in excluded manufacturing processes.

(1) In addition to meeting the basic requirements of § 781 1(f) and the

definition of excluded manufacturing processes at § 761.3, manufacturers with processes inadvertently generating PCBs and importers of products containing inadvertently generated PCBs must report to EPA any excluded manufacturing process or imports for which the concentration of PCBs in products leaving the manufacturing site or imported is greater than 2 micrograms per gram $(2 \mu g/g, roughly 2 ppm)$ for any resolvable gas chromatographic peak. Such reports must be filed by October 1, 1984 or, if no processes or imports require reports at the time, within 90 days of having processes or imports for which such reports are required.

(b) Manufacturers required to report by paragraph (a) of this section must transmit a letter notifying EPA of the number, the type, and the location of excluded manufacturing processes in which PCBs are generated when the PCB level in products leaving any manufacturing site is greater than 2 µg/g for any resolvable gas chromatographic peak. Importers required to report by paragraph (a) of this section must transmit a letter notifying EPA of the concentration of PCBs in imported products when the PCB concentration of products being imported is greater than 2 μg/g for any resolvable gas chromatographic peak. Persons must also certify the following:

(1) Their compliance with all applicable requirements of \$ 781.1(f). including any applicable requirements for air and water releases and process

waste disposal.

(2) Whether determinations of compliance are hased on actual monitoring of PCB levels or on theoretical assessments.

(3) That such determinations of compliance are being maintained.

- (4) If the determination of compliance is based on a theoretical assessment, the letter must also notify EPA of the estimated PCB concentration levels ... generated and released.
- (c) Any person who reports pursuant to paragraph (a) of this section:
- (1) Must have performed either a ... theoretical analysis or actual monitoring of PCB concentrations.
- (2) Must maintain for a period of three years after ceasing process operations or importation, or for seven years, whichever is shorter, records containing the following information:
- (i) Theoretical analysis. Manufacturers records must include: the reaction or reactions believed to be generating PCBs; the levels of PCBs generated; and the levels of PCBs released. Importers records must include: the reaction or reactions

believed to be generating PCBs and the levels of PCBs generated; the basis for all estimations of PCB concentrations; and the name and qualifications of the person or persons performing the theoretical analysis; or

(ii) Actual monitoring. (Λ) The method of analysis.

- (B) The results of the analysis, including data from the Quality Assurance Plan.
 - (C) Description of the sample matrix.
- (D) The name of the analyst or analysts.
 - (E) The data and time of the analysis. (F) Numbers for the lots from which

the samples are taken.

(d) The certification required by: paragraph (b) of this section must be signed by a responsible corporate officer. This certification must be maintained by each facility or importer for a period of three years after ceasing process operation or importation, or for seven years, whichever is shorter, and must be made available to EPA upon request. For the purpose of this section. a responsible corporate officer means:

(1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.

- (2) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25,000,000 (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- (e) Any person signing a document under paragraph (d) of this section shall also make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information. Based on my inquiry of the person or persons directly responsible for the gathering information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I amaware that there are significant penalties for falsifying information, including the possibility of fines and imprisonment for knowing violations.

Dated:-Signature: -

(f) This report must be submitted to the U.S. Environmental Protection Agency, Document Processing Center, P.O. Box 2070, Rockville, MD 20852, Attention PCB Notification. This report must be submitted by October 1, 1984 or within 90 days of starting up processes or commencing importation of PCBs.

(g) This certification process must be repeated whenever process conditions are significantly modified to make the previous certification no longer valid.

[Approved by the Office of Management and Budget under control number 2070-0008)

11. Section 761.187 and OMB control number 2070-0008 are added to read as follows:

§761.187 Reporting importers and by persons generating PCBs in excluded manufacturing processes.

In addition to meeting the basic requirements of § 761.1(f) and the definition of excluded manufacturing process at § 761.3, PCB-generatingmanufacturing processes or importers of PCB-containing products shall be considered 'excluded manufacturing processes" only when the following conditions are met:

(a) Data are reported to the EPA by the owner/operator or importer concerning the total quantity of PCBs in product from excluded manufacturing processes leaving any manufacturing site in any calendar year when such quantity exceeds 0.0025 percent of that site's rated capacity for such manufacturing processes as of October 1, 1984; or the total quantity of PCBs imported in any calendar year when such quantity exceeds 0.0025 percent of the average total quantity of such product containing PCBs imported by such importer during the years 1978. 1979, 1980, 1981 and 1982.

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- (b) Data are reported to the EPA by the owner/operator concerning the total quantity of inadvertently generated PCBs released to the air from excluded manufacturing processes at any manufacturing site in any calendar year when such quantity exceeds 10 pounds.
- (c) Data are reported to the EPA by the owner/operator concerning the total quantity of inadvertently generated PCBs released to water from excluded manufacturing processes from any manufacturing site in any calendar year when such quantity exceeds 10 pounds.
- (d) These reports must be submitted to the U.S. Environmental Protection Agency, Document Processing Center, P.O. Box 2070, Rockville, Maryland 20852, Attention: PCB Notification.

(Approved by the Office of Management and Budget under control number 2070-0008)

12. Section 761.193 and OMB control number 2070-0008 are added to read as follows:

§ 761.193 Maintenance of monitoring records by persons who import, manufacture, process, distribute in commerce, or use chemicals containing inadvertently generated PCBs.

- (a) Persons who import, manufacture, process, distribute in commerce, or use chemicals containing PCBs present as a result of inadvertent generation or recycling who perform any actual monitoring of PCB concentrations must maintain records of any such monitoring for a period of three years after a process ceases operation or importing ceases, or for seven years, whichever is shorter.
- (b) Monitoring records maintained pursuant to paragraph (a) of this section must contain:
 - (1) The method of analysis.
- (2) The results of the analysis, including data from the Quality. Assurance Plan.
 - (3) Description of the sample matrix.
- (4) The name of the analyst or analysts.
 - (5) The date and time of the analysis.
- (6) Numbers for the lots from which the samples are tuken.

(Approved by the Office of Management and Budget under control number 2070-0008)

{FR Doc. 84-17903 Plied 7-8-84; 8:46 aml BILLING CODE 8680-88-88

40 CFH Part 761

[OPTS-62031A; TSH FRL-2590-2]

Toxic Substances Control Act; Polychlorinated Biphenyla (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions Use in Microscopy and Research and Development

AGENCY: Environmental Protection Agency (EPA). ACTION: Final rule.

SUMMARY: This final rule amends portions of an existing EPA rule concerning certain chemical substances known as polychlorinated biphenyls (PCBs). EPA is amending the PCB Ban rule, published in the Federal Register of May 3, 1979 (44 FR 31514) by: [1] Authorizing indefinitely the use of PCBs as mounting media in microscopy, (2) authorizing indefinitely the use of PCBs as immersion oils in low fluorescence microscopy, (3) authorizing indefinitely the use of PCBs as optical liquids, and (4) authorizing indefinitely the use of small quantities of PCBs for use in research and development. EPA has determined that these uses of PCBs do not pose unreasonable risks to public health or the environment. EPA is not

authorizing the use of PCBs as calibration standards.

DATES: These amendments shall be considered promulgated for purpose of judicial review under section 19 of the Toxic Substances Control Act (TSCA) at 1:00 p.m. Eastern Daylight Time on July 24, 1984. These amendments shall be effective on July 1, 1984.

FOR FURTHER INFORMATION CONTACT: Edward A. Klein, Director, TSCA Assistance Office (TS-799), Office of Toxic Substances, Environmental Protection Agency, Rm. E-543, 401 M St., SW., Washington, D.C. 20460, Toll free: [800-424-9065), In Washington, D.C.: (554-1404), Outside the USA: (Operator—202-554-1404).

SUPPLEMENTARY INFORMATION:

L Background

Section 8(e) of the Toxic Substances Control Act (TSCA) generally prohibits the use of PCBs after January 1, 1978. The statute does, however, set forth twoexceptions under which EPA may, by rule, allow a particular use of PCBs to continue. Under section 6(e)(2) of TSCA. EPA may allow PCBs to be used in a "totally enclosed manuer." A "totally enclosed manner" is defined by TSCA to be "any manner which will ensure that any exposure of hunan beings or the environment to a polychlorinated biphenyl will be insignificant, as determined by the Administrator by rule." TSCA also allows EPA to authorize the use of PCBs in a manner other than a totally enclosed manner if the Agency finds that the use "will not present an unreasonable risk of injury to health or the environment"

EPA promulgated a rule at 40 CFR Part 761, which was published in the Federal Register of May 31, 1979 (44 FR 31514), to implement section 6(e) (2) and [3] of TSCA EPA authorized, among other provisions of this rule, the nontotally enclosed use of PCBs for 11 activities. These authorizations were for the following activities: (1) Surviving of electrical transformers, (2) use in and servicing of railroad transformers, (3) use in and servicing of mining equipment, (4) use in carbonless copy paper, (5) use in pigments, (6) servicing of electromagnets, (7) use in natural gas pipeline compressors, (8) use in hydraulic systems, (9) use in heat transfer systems, (10) use in small quantities for research and development, and (11) use in microscopy mounting medium.

In the May 31, 1979 PCB Ban Rule, EPA also excluded from regulation materials containing PCBs in concentrations under 50 parts per million (ppm), and determined that the

use of electrical transformers, capacitors, and electromagnets was "totally enclosed."

The Environmental Defense Fund (EDF) petitioned the U.S. Court of Appeals for the District of Columbia Circuit to review: (1) EPA's determination that the use of electrical transformers, capacitors, and electromagnets was totally enclosed, (2) EPA's decision to set a regulatory cutoff at 5 ppm, and (3) EPA's decision to authorized the continued use of the 11 non-totally enclosed uses of PCBs. On October 30, 1980, the Court invalidated the regulatory exclusion for PCB concentrations below 50 ppm and the -determination that the use of transformers, capacitors and electromagnets was totally enclosed. However, the Court decided that there -== was substantial avidance in the record .: * to support EPA's decisions on the 11 use authorizations. Thus, the Court upheld. the 11 use authorizations (Environmental Defense Fund, Inc. v. -Environmental Protection Agency, 638. -F.2d 1267]. 4 That +19.5 . . .

Subsequent to the promulgation of therule on May 31, 1979 and the 1980 Courtedecision, three of these useauthorizations were amended. These - -amendments were promulgated for the use and servicing of PCBs in electrical -equipment transformers, electromagnets,and railroad transformers. Of the remaining use authorizations, four expire on July 1, 1984: Heat transfer systems, hydraulic systems, microscopy as a mounting medium, and small quantities for research and development. The four use authorizations that expire on July 1. 1984, contain various conditions.

Section 761,30(d) authorizes the use of PCBs in neat transfer systems until July 1, 1984, subject to conditions regarding testing and requirements for reducing PCB concentrations. The authorization for the use of PCBs in hydraulic systems unnl July 1, 1984, in § 761.30(e) contains similar requirements for testing and reducing PCB concentrations until the PCB concentration in the equipment reaches 50 ppm. (Since the May 31, 1979 -PCB Ban Rule established a regulatory cutoff at 50 ppm for the manufacture, processing, distribution in commerce. and use of PCBs, EPA essentially left unregulated heat transfer and hydraulic systems containing less then 50 ppm.)

The use authorization for the use of PCBs as a mounting medium in microscopy until July 1, 1984, in § 761.30(k), contains no special conditions or requirements. The use authorization for the use of small quantities of PCBs for research and

in Commerce and Use Prohibitions; Use in Electrical Equipment" published in the Federal Register of August 25, 1982, (47 FR 37342).

(5) Official rulemaking record from "Polychlorinated Biphenyls (PCBs); Manufacture, Processing, Distribution in Commerce and Use Prohibitions; Use in Microscopy and Research and Development" published in the Federal Register of November 17, 1983, (48 FR 52402).

(6) Official rulemaking record from "Polychlorinated Biphenyls (PCBs); Manufacturing, Processing, Distribution in Commerce Exemptions; Proposed Rules" published in the Federal Register of November 1, 1983 (48 FR 50486).

B. Federal Register Notices

(7) USEPA, "Polychlorinated Biphenyls (PCBs) Disposal and Marking Final Regulation", 43 FR 7156, February 17, 1978

(8) USEPA, "Polychlorinated "Family Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions", 44 FR 31514, May 31, 1979.

(9) USEPA. "Polychlorinated Biphenyls (PCBs) Manufactuiring, Processing, Distribution in Commerce and Use Prohibitions; Use in Electrical Equipment", 47 FR 37342, August 25, 1982.

(10) USEPA, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions: Use in Closed and Controlled Waste Manufacturing Processes". 47 FR 46980, October 21, 1982

(11) USEPA. "Polychlorinated Biphenyls (PCBs) Manufacture, Processing, Distribution in Commerce and Use Prohibitions; Use in Microscopy and Research and Development". 48 FR 52402, November 17, 1983.

(12) USEPA, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce Exemptions; Proposed Rules" 48 FR : 50486, November 1, 1983.

C. Support Documents

(13) USEPA, OPTS, EED, "Letter "... Soliciting Data on Use Authorization for Use of PCBs in Microscopy." April 13, 1983

(14) Philadelphia Museum of Art, Marigene H. Butler, "Comments on Use Authorization for Microscopy." April 29, 1983.

(15) USEPA, OPTS, EED, "Record of Telephone Communication Between Martha Goodway of the Smithsonian and Denise Keehner of EPA." May 9(?), 1983.

(16) R.P. Cargille Laboratories, Inc., William J. Sacher, "Petition for PCB Processing and Distribution in Commerce Exemption." July 18, 1983. [17] McCrone Research Institute,

(17) McCrone Research Institute, Walter C. McCrone, "Petition from PCB Processing and Distribution in Commerce Prohibitions." July 9, 1983.

(18) McCrone Research Institute, Walter C. McCrone, "Letter Describing Safety Precautions in Handling of PCBs." January 7, 1983.

(19) Journal of the American Medical Association, "Letter: Polychlorinated Biphenyls in Microscope Immersion Oil." April 1, 1983.

VIII. Judicial Review

Judicial review of this final rule may be available under section 19 of TSCA. in the United States Court of Appeals for the District of Columbia Circuit or for the circuit in which the person seeking review resides or has its principal place of business. To provide all interested persons an equal opportunity to file a timely petition for judicial review and to avoid so called 'races to the courthouse," EPA has decided to promulgate this rule for purposes of judicial review two weeks after publication in the Federal Register. as reflected in "DATES" in this notice. The effective date has, in turn been calculated from the promulgation date.

List of Subjects in 40 CFR Part 781

Hazardous materials, Lubeling, Polychlorinated biphenyls, Recordkeeping and reporting requirements, Environmental protection. (Sec. 8, Pub. L. 94-466, 90 Stat. 2023 (15 U.S.C. 2005)

Dated June 27, 1994. Alvin L. Alm. Acting Administrator

PART 761-[AMENDED]

Therefore, 40 CFR 781.30 is amended by revising paragraphs (j) and (k) and

adding paragraphs (n) and (o) to read as follows:

§ 761.30 Authorizations.

(j) Small quantities for research and development. PCBs may be used in small quantities for research and development, as defined in § 761.3(ee), in a manner other than a totally enclosed manner, indefinitely. Manufacture, processing, and distribution in commerce of PCBs in small quantities for research and development is permitted only for persons who have been granted an exemption under TSCA section 6(e)(3)(B).

(k) Microscopy mounting medium. PCBs may be used as a permanent microscopic mounting medium in a manner other than a totally enclosed manner indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as a mounting medium are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

(n) Microscopy immersion oil. PCBs may be used as an immersion oil in fluorescence microscopy, in a manner other than a totally enclosed manner indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as a low fluorescence immersion oil are permitted only for persous who are granted an exemption under TSCA section 6(e)(3)(B).

(o) Optical liquids. PCBs may be used as optical liquids in a manner other than a totally enclosed manner indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as optical liquids are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

[FR Doc. 86-17971 Filed 7-0-80; 8:65 ann)
681.LING CODE 8560-50-86 1 2 2 4

PART 761—[AMENDED]

Therefore, 40 CFR Part 761 is amended as follows:

1. The authority citation for Part 761 is revised to read as follows:

Authority: 15 U.S.C. 2605, 2607, and 2611.

2. In § 761.3, the following paragraphs are alphabetically added to read as follows:

§ 761.3 Dufinitions.

"In or Near Commercial Buildings" means within the interior of, on the roof of, attached to the exterior wall of, in the parking area serving, or within 30 meters of a non-industrial nonsubstation building. Commercial buildings are typically accessible to both members of the general public and employees, and include: (1) Public assembly properties, (2) educational properties, (3) Institutional properties, (4) residential properties. (5) stores, (6) office buildings, and (7) transportation centers (e.g., airport terminal buildings, subway stations, bus stations, or train stations).

"Industrial buildings" means a building directly used in manufacturing or technically productive enterprises. Industrial buildings are not generally or typically accessible to other than workers. Industrial buildings include buildings used directly in the production of power, the manufacture of products, the mining of raw materials, and the storage of textiles, petroleum products, wood and paper products, chemicals, plastics, and metals.

"Manned Control Center" means an electrical power distribution control room where the operating conditions of a PCB Transformer are continuously monitored during the normal hours of operation (of the facility), and, where the duty engineers, electricians, or other trained personnel have the capability to deenergize a PCB Transformer

completely within 1 minute of the receipt of a signal indicating absorbed operating conditions such as an overtemperature condition on overpressure condition in a PCD Transformer.

"On site" means within the boundaries of a contiguous property unit.

"Rupture of a PCB Transformen" means a violent or non-violent disease in the integrity of a PCB Transformen caused by an overtemperations and/or overpressure condition that assults in the release of PCBs.

3. In § 761.30, the intraductory test of paragraph (a) and paragraph(a)(a)(a) are revised and OMB Contral Mumiher 2879—0073 is added to read as follows:

§ 761.30 Authorizations.

- (a) Use in and servicing off transformers (other than sailhand trunsformers). PCBs at any concentration may be used intransformers (other than intrailhand locomotives and self-progalled sailhand cars) and may be used for purposes of servicing including rebuilding these transformers for the remaindured their useful lives, subject to the following conditions:
- (1) Use conditions. (i) Assoft Outsider 1., 1985, the use and storage for recipe off PCB Transformers that gomean exposure risk to food or feedling prohibited.
- (ii) As of October 1, 1990, the unserof network FCB Transformers with higher secondary voltages (secondary waltages equal to or greater than 4MD walts, including 480/277 volt systemal) in an near commercial buildings its prohibited. Network PCB Transformers with higher secondary voltages which are minimised from service in accordance with this requirement must either be readmentified to PCB Contaminated ar num PCB stakes, placed into storage for disquestil, and disposed.
- (iii) As of October 1.1985, the installation of PCB Transformers facilities have been placed into atomage for remove or which have been removed from another location) in orness commercial buildings is prohibited.
- (iv) As of October 1,1999, all radial PCB Transformers and lower secondary voltage network PCB Transformers (network transformers with secondary voltages below 480 vols)) in use in or near commercial buildings must be equipped with electrical gardentian to

avoid transformer failures caused by high current faults. Current-limiting fuses or other equivalent technology must be used to detect sustained high current faults and provide for complete deenergization of the transformer within several tenths of a second of detection, before transformer failure occurs. The installation, setting, and maintenance of current-limiting fuses or other equivalent technology to avoid PCB Transformer failures from sustained high current faults must be completed in accordance with good engineering practices.

(v) As of October 1, 1990, all radial PCB Transformers with higher secondary voltages (480 volts and above, including 480/277 volt systems) in use in or near commercial buildings must (in addition to the requirements of paragraph (a)(1)(iv) of this section) be equipped with protection to avoid transformer failures caused by sustained

low current faults.

(A) Pressure and temperature sensors (or other equivalent technology which has been demonstrated to be effective in the early detection of sustained low current faults) must be used in these transformers to detect sustained low current faults.

(B) Disconnect equipment must be provided to insure complete deenergization of the transformer in the event of a sensed abnormal condition (e.g., an overpressure or overtemperature condition in the transformer), caused by a sustained low current fault. The disconnect equipment must be configured to operate automatically within 30 seconds to 1 minute of the receipt of a signal indicating an abnormal condition from a sustained low current fault, or can be configured to allow for manual deenergization from a manned on-site control center upon the receipt of an audio or visual signal indicating an abnormal condition caused by a sustained low current fault. Manual deenergization from a manned on-site control center must occur within 1 minute of the receipt of the audio or visual signal indicating an abnormal condition caused by a sustained low current fault. If automatic operation is selected and a circuit breaker is utilized for disconnection, it must also have the capability to be manually opened if песевзагу.

(C) The enhanced electrical protective system required for the detection of sustained low current faults and the complete and rapid deenergization of transformers must be properly installed, maintained, and set sensitive enough (in accordance with good engineering practices) to detect sustained low current faults and allow for rapid and

total deenergization prior to PCB Transformer rupture (either violent or non violent rupture) and release of PCBs

(iv) As of December 1, 1985, all PCB Transformers (including PCB Transformers in storage for reuse) must be registered with fire response personnel with primary jurisdiction (that is, the fire department or fire brigade which would normally be called upon for the initial response to a fire involving the equipment). Information required to be provided to fire response personnel includes:

(A) The location of the PCB
Transformer(s) (the address(es) of the
building(s) and the physical location of
the PCB Transformer(s) on the building
site(s) and for outdoor PCB
Transformers, the location of the
outdoor substation).

(B) The principal constituent of the dielectric fluid in the transformer(s) (e.g., PCBs, mineral oil, or silicone oil).

(C) The name and telephone number of the person to contact in the event of a fire involving the equipment.

(vii) As of December 1, 1985, PCB Transformers in use in or near commercial buildings must be registered with building owners. For PCB Transformers located in commercial buildings, PCB Transformer owners must register the transformers with the building owner of record. For PCB Transformers located near commercial buildings, PCB Transformer owners must register the transformers with all owners of buildings located within 30 meters of the PCB Transformer(s). Information required to be provided to building owners by PCB Transformer owners includes but is not limited to:

(A) The specific location of the PCB Transformer(s).

(B) The principal constituent of the dielectric fluid in the transformer(s) (e.g., PCBs, mineral oil, or silicone oil).

(C) The type of transformer installation (e.g., 208/120 volt network, 280/120 volt radial, 480 volt network, 480/277 volt network, 480 volt radial, 480/277 volt radial).

(viii) As of December 1, 1985, combustible materials, including, but not limited to paints, solvents, plastics, paper, and sawn wood must not be stored within a PCB Transformer enclosure (i.e., in a transformer vault or in a partitioned area housing a transformer); within 5 meters of a transformer enclosure, or, if unenclosed (unpartitioned), within 5 meters of a PCB Transformer.

(ix) A visual inspection of each PCB Transformer (as defined in the definition of "PCB Transformer" under § 761.3) in use or stored for reuse shall be

performed at least once every 3 months. These inspections may take place any time during the 3-month periods: January-March, April-June, July-September, and October-December as long as there is a minimum of 30 days between inspections. The visual inspection must include investigation for any leak of dielectric fluid on or sround the transformer. The extent of the visual inspections will depend on the physical constraints of each transformer installation and should not require an electrical shutdown of the transformer being inspected.

(x) If a PCB Transformer is found to have a leak which results in any quantity of PCBs running off or about to run off the external surface of the transformer, then the transformer must be repaired or replaced to eliminate the source of the leak. In all cases any leaking material must be cleaned up and properly disposed of according to disposal requirements of \$ 781.60. Cleanup of the released PCBs must be initiated as soon as possible, but in no case later than 48 hours of its discovery. Until appropriate action is completed, any active leak of PCBs must be contained to prevent exposure of humans or the environment and inspected daily to verify containment of the leak. Trenches, dikes, buckets, and pans are examples of proper containment measures.

(xi) If a PCB Transformer is involved in a fire-related incident, the owner of the transformer must immediately report the incident to the National Response Center (tol)-free 1-800-424-8802; in Washington, D.C. 202-426-2875). A firerelated incident is defined as any Incident involving a PCB Transformer which involves the generation of sufficient heat and/or pressure (by any. source) to result in the violent or nonviolent rupture of a PCB Transformer and the release of PCBs. Information must be provided regarding the type of PCB Transformer installation involved in the fire-related incident (e.g., high or low secondary voltage network transformer, high or low secondary voltage simple radial system, expanded radial system, primary selective system, primary loop system, or secondary selective system or other systems) and the readily ascertainable cause of the fire-related incident (e.g., high current fault in the primary or secondary or low current fault in secondary). The owner of the PCB Transformer must also take measures as soon as practically and safely possible to contain and control any potential releases of PCBs and incomplete combustion products into

whicher a rule is a major rule and therefore subject to the requirement that a Regulatory Impact Analysis he proposed EPA behaves that this am adment to the PCB rule is a major rule as the term is defined in section 1(b) of the Executive Order Therefore EPA has prepared a Regulatory Impact Analysis

While the rule places additional restrictions and conditions on the use of PCB Transformers, it is worth noting that this regulation allows the continued uses of PCBs in electrical transformers that would otherwise be prohibited by section 6(e) of PLA. This rule avoids the severe disruption of electric service to the public and industry that would occur if the use of this equipment were immediately prohibited. It also avoids the economic impact that would result from a requirement to replace the equipment as soon as possible

This rule was submitted to the Office of Management and Budget (OMB) as required by the Executive Order

XII Regulatory Flexibility Act

Under section 805(b) of the Regulatory Plexibility Act 5 U S C 605(b), the Administrator may certify that a rule will not, if promulgated have a significant impact on a substantial number of small entities and therefore does not require a regulatory flexibility analy as

In a ner 1 tris run will reduce the burden on sin all ausinesses that would otherwise be an countered if an immediate bar on PCB-containing transformers were to take effect. If an immediate ban on the use of PCBs in transformers were imposed farge costs would be included by all producers and users of electricity. Including small business a

I certify that due rele will not have a agnifuant occinomic impact on a substantial number of small critics.

XIII Paperwork Reduction Act

The information collection requirements of this rule have been submitted for approval to the Office of Min gemein and Budget (OMB) under di Paperwork Reduction Act of 1980-44 USC 3. 21 at seq. in response to the information offiction requirements as ociated with the proposed rule. OMB common ed that the Agency should resul m t the information collection requirements with the final rule showing how EP I n is reduced the buildens by harding the ride's applicability to trun formers which because of location or install ition type are of higher risk Bised on this comment and other comment in the during the public compact per od IPA has sepmented

transformers for variable treatment based on type and location. The Office of Management and Budget has approved the information collection requirements of this rule under OMB Control Number. 2070–0073

List of Subjects in 40 CFR Part 761

Hazardous substances, Lubeling Polychlormated biphenyls, Recordkeeping and reporting requirements, Environmental protection

Dated July 1 1985.

A James Barnes
Acting Admin strator

PART 761-[AMENDED]

Therefore, 40 CFR Part 761 is amended as follows

1 The authority citation for Part 781 is revised to read as follows

Authority 15 U.S.C. 2605, 2607, and 2811

2 In § 761 3 the following paragraphs are alphabetically added to read as follows

§ 7613 Pefinition:

In or Near Commercial Buildings" means within the interior of, on the rouf of attached to the exterior wall of, in the parking area serving or within 30 meters of a non indistrial non-· ubstation building Commercial buildings are typically accessible to both members of the general public and employees and include (1) Public ussembly properties, (2) educational properties (3) institutional properties. (4) residential properties (5) stores, (8) office buildings and (7) transportation centers (e.g., airport terminal buildings, subway stations bus stations or train stations)

Industrial buildings 'means a building directly used in manufacturing or tech meally productive enterprises. Industrial buildings are not generally or typically accessible to other than workers. Industrial buildings include buildings used directly in the production of power the manufacture of products, the mixing of raw materials, and the storage of textiles petroleum products, wore and paper products, chemicals, plastics, and metals.

M nined Control Center means an electrical power distribution control room where the operating conditions of a PCB Transformer are continuously monitored during the normal hours of operation (of the facility) and, where the duty engineers electricians, or other trained personnel have the capability to de neigize a PCB Transformer

completely within 1 minute of the receipt of a signal indicating abnormal operating conditions such as an overlemperature condition or overpressure condition in a PCB Transfermer

'On site means within the boundaries of a contiguous property unit

Rupture of a PCB Transformer" means a violent or non-violent break in the integrity of a PCB Transformer caused by an overtemperature and/or overpressure condition that results in the release of PCBs.

3 In § 761 30, the introductory text of paragraph (a) and paragraph (a)(1) are revised and OMB Control Number 2070—0073 is added to read as follows

§ 761 30 Authorizations.

(a) Use in and servicing of transformers (other than railroad transformers) PCBs at any concentration may be used in transformers (other than in railroad locuriotives and self propelled railroad cars) and may be used for purposes of servicing including rebuilding these transformers for the remainder of their ureful lives, subject to the following conditions

- (1) Use conditions (i) As of October 1, 1905 the use and storage for reuse of PCB Transformers that pose an exposure risk to food or feed is prohibited.
- (ii) A, of October 1, 1990 the use of network PCB Transformers with higher secondary voltages (secondary voltages equal to or greater than 480 volts, including 480/277 volt systems) in or in an commercial buildings is prohibited. Notwork PCB Transformers with higher so of key voltages which are removed from service in accordance with his require night must either be reclassified to PCB Contaminated or non PCB status, placed into storage for disposal or disposal
- (iii) As of October 1 1985 the installation of PCB Transformers (which have been placed into storage for reuse or which have been removed from anomic location) in or near commercial build nest a prohibited
- (iv) As of October 1 1990, all radial PCB 1 unsformers and lower secondary voltage network PCB Transformers (network transformers with secondary voltages below 480 volts) in use m or near commercial buildings must be equipted with electrical protection to

water. These measures include, but are not limited to

- (A) The blocking of all floor drains in the vicinity of the transformer.
- he vicinity of the transformer.

 (B) The containment of water runoff.
- (C) The control and treatment (prior to release) of any water used in subsequent cleanup operations.
- (xii) Records of inspection and maintenance history shall be maintained at least 3 years after disposing of the transformer and shall be made available for inspection, upon request by EPA. Such records shall contain the following information for each PCB Transformer:
 - (A) its location
- (B) The date of each visual inspection and the date that leak was discovered, if different from the inspection date
- (C) The person performing the inspection.
 - (D) The location of any leak(s)
- (E) An estimate of the amount of dielectric fluid released from any leak.
- (F) The date of any cleanup, containment, repair, or replacement
- (G) A description of any cleanup, containment, or repair performed.
- (H) The results of any containment and daily inspection required for uncorrected active leaks.

- (xiii) A reduced visual inspection frequency of at least once every 12 months applies to PCB Transformers that utilize either of the following risk reduction measures. These inspections may take place any time during the calendar year as long as there is a minimum of 180 days between inspections.
- (A) A PCB Transformer which has impervious, undrained, secondary containment capacity of at least 100 percent of the total dielectric fluid volume of all transformers so contained or
- (B) A PCB Transformer which has been tested and found to contain less than 60,000 ppm PCBs (after 3 months of in service use if the transformer has been serviced for purposes of reducing the PCB concentration).
- (xiv) An increased visual inspection frequency of at least once every week applies to any PCB Transformer in use or stored for reuse which poses an exposure risk to food or feed. The user of a PCB Transformer posing an exposure risk to food is responsible for the inspection, recordkeeping, and maintenance requirements under this section until the user notifies the owner

that the transformer may pose an exposure risk to food or feed. Following such notification, it is the owner's ultimate responsibility to determine whether the PCB Transformer poses an exposure risk to food or feed.

[The recordkeeping requirements of paragraphs (a)(1) (vi), (vii), and (xi) were approved by the Office of Management and Budget under OMB Control Number 2070–0073. The recordkeeping requirements of paragraph (xii) were approved by the Office of Management and Budget under OMB Control Number 2070–0007.)

4. In § 761.40, paragraph (j) is added to read as follows:

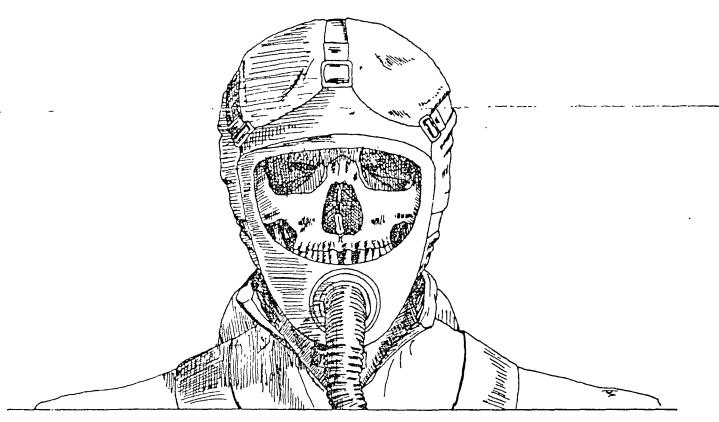
§ 761.40 Marking requirements.

(j) As of December 1, 1985, the vault door, machinery room door, fence, hallway, or means of access (others than grates and manhole covers) to a PCB Transformer must be marked with the mark M_L. The mark must be placed so that it can be easily read by firemen fighting a fire involving this equipment.

(FR Doc. 85-16851 Filed 7-16-85, 8.45 am)
BILLING CODE 6560-50-86

A high-rise remains abandoned as a minor fire results in a major controversy.

Contamination



By ALAN J SALY

At 5:35 AM on February 5, 1981, a fire broke out in the the basement of a state office building in Binghamton, New York—part of a \$24-million complex opened in 1973 As a result of that relatively minor fire, the 18-story building has now been totally abandoned—the first in America to be completely contaminated with toxic hydrocarbons known as polychlorinated biphenyls (PCBs).

As electrical arcing ignited insulation around a transformer in the basement of the building, an automatically activated alarm went off at the nearby headquarters of the Binghamton Fire Department. (A city with a population of 56,000, Binghamton is located in south central New York State near the Pennsylvania border.)

Alan J Saly works for CBS News

"The building had an ADT system," recalls BFD Assistant Chief Gene Faughnan. "It had gone off 200 or 300 times already, and each time it had turned out to be nothing. So, after the first 20 or 30 times, instead of responding with a full-alarm assignment, we began the practice of sending out one engine."

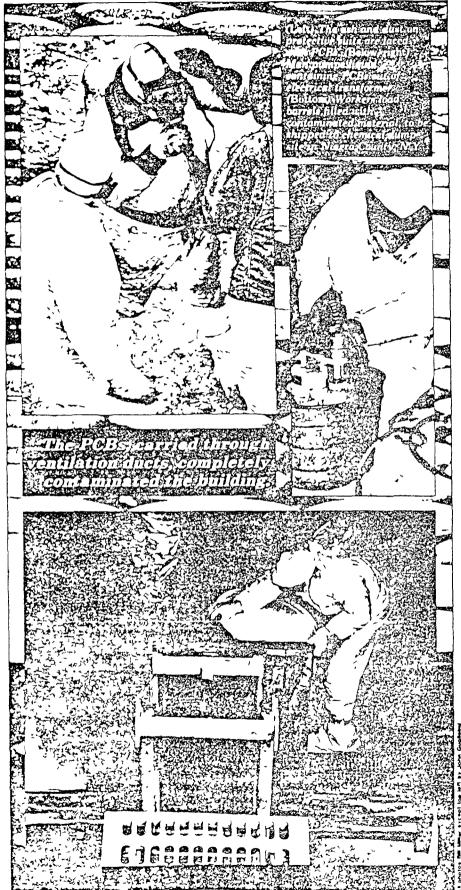
Shortly after Engine 5 was dispatched to the ADT alarm, a security guard from the state building called fire department headquarters and confirmed that there actually was a fire in progress. A full assignment (three engine companies and two truck companies) was then dispatched.

"There is a parking garage underneath the building," recalled Assistant Chief Faughnan. "We went down the ramp, and when we got about halfway down, I noticed some smoke. At the time I thought it was a car fire, We weren't very excited. Then there was an explosion, and I knew we had problems." The explosion was followed by a series of smaller explosions, as the electrical arcing continued in the transformer.

Said Assistant Chief Faughnan: "The 'machine room,' which housed electrical equipment, was in front of us. As we approached it, we were met by a maintenance man who said the fire was in the room. We went through the hallway to the entrance. I opened the door a crack, and saw heavy black smoke and electrical arcing. I closed the door."

While a man went to contact the electric company and get the power shut off, the firefighters charged lines in preparation for entry.

"Soon the electric company arrived a man named Kellerman—and said the juice was off. The first men in entered the room on their hands and knees, wearing self-contained breathing appa-



ratus (demand) and standard turnout coats. We proceeded into the room, and put out several small fires, using only 15 to 20 gallons of water. We vented the heavy black smoke through an overhead door. It didn't take long to put down the fire. It was declared under control at 6.50 A.M.

"I could smell a strong odor like mothballs," Assistant Chief Faughnan said "I smelled it right from the beginning"

It came from an oily substance which coated the floor of the machine room. "The first three men had entered crawling in the stuff," Faughnan continued "They came out all covered with it Some of them got burns through their clothes—the stuff was absorbed through fabric. The smell was all over their clothes.

"Kellerman told us that he was pretty sure the transformer contained pyranol I asked him what that was He said that when electric company personnel came into contact with it, their clothes had to be placed in steel drums and shipped away 'O K,' I said, 'but what is it?' Kellerman said, 'It s a PCB, and they're toxic to human beings' "

Pyranol is the trade name for a PCB used in electrical transformers as a coolant PCBs belong to a family of chemical compounds called polychlorinated phenyls. They have been used in rubber products and insulating materials, in brake linings, in paints and varnishes, in waxes, and also in pesticides.

Knowledge of PCB toxicity comes mainly from an incident of high-level contamination of rice oil in Japan in 1968 where 10 000 people were affected Symptoms observed included a higher than normal proportion of miscarriages and stillbirths, skin rashes, and swelling of joints High doses of PCBs given to hamsters in a Food and Drug Administration (FDA) study around that time also resulted in a high incidence of birth defects. There is also a possibility that PCBs cause cancer They accumulate in fatty tissues in the body, and are permanently retained. They are now found throughout the world, contaminating man and animals in small amounts

In September of 1979, 325,000 chickens and 750,000 eggs were destroyed when feed was contaminated by pyranol in Billings, Montana There on the grounds of the Pierce Packing Company, 200 gallons of the PCB leaked from a ruptured transformer into waste water used for recovering solids for use in meat meal The meal was fed to animals, and the contamination spread to 19 states, Canada and Japan

Sherwin Gardner, acting commission er of the FDA at the time, said that the contamination posed no immediate

threat to consumers in the affected

Used transformer oil, sprayed on animals as part of a pesticide treatment, has been linked to cattle deaths in Kansas, and PCB herbicides have been indicated in a rash of miscarriages among women in Alsea Oregon in 1979

Eleven hundred gallons of pyranol were in the transformer that caught fire in Binghamton, and an estimated 125 gallons of the chemical spilled

Assistant Chief Faughnan called Chemtree from the fire scene for further information on PCBs. Chemtree confirmed that PCB was a contaminant and referred Faughnan to the Environmental Protection Agency (EPA). Using information gained from the EPA as well as Monsanto the company which manufactured the PCBs, he got further advice on how to protect personnel on the scene from further contamination.

Shortly afterwards, Binghamton Chief Ed Faughnan, brother of Gene Faughnan, arrived on the scene to take command Assistant Chief Faughnan recommended that the department follow electrician Kellerman's instructions I advised our firefighters to leave all the tools where they were and put all turnout gear in plastic bags," said Assistant Chief Faughnan

Some firefighters remained on the scene for cleanup operations, while all non-essential firefighters were sent back to their stations immediately Meanwhile arrangements were made with Binghamton General Hospital to have blood tests conducted on all exposed firefighters

During the cleanup operation, as is generally the case at most fire scenes, the men removed their masks. After completing overhaul operations and returning to the firehouse, all the men stripped down, put their clothes in plastic bags and showered. According to Assistant Chief Faughnan, one man suffered from acute nausea after the fire, and several developed rashes. "There was one man who ran out of air in the machine room he got it the worst. But we probably all got a little." Results of the blood tests, however, showed no significant levels of PCB contamination.

The New York State Health Department began a cleanup of the building immediately, contracting an outside firm the New England Pollution Control Company to do the work Two of their men developed skin rashes. The PCBs had totally contaminated the building carried to all 18 floors by ventilation ducts.

The state cleanup was abruptly haited on February 26 when it was discovered that two substances much more toxic than PCBs dioxin and dibenzofu

ran were found in samples of the soot. These chemicals are the active ingredients in Agent Orange, the Vietnam War defoliant.

PCBs, dioxin, and dibenzofuran are at the center of continuing controversy as are the sharply contradictory studies on their effects. Recent studies suggest that dioxin can be produced when PCBs are burned. At Binghamton. PCBs were present both in the coolant pyranol and in the plastic insulation around the transformer.

In the furor that followed news reports of PCB and dioxin contamination

New York Governor Hugh Carey, at a news conference on March 4 said he d drink a glass of PCBs to show they were not dangerous

By that time \$500,000 had already been spent to clean the building—not including the cost to relocate 750 state workers

Dr Steven Stellman of the American Cancer Society said that the levels of dioxin found in the state building were "higher than the average range of dioxins present in Agent Orange and much higher than the level found in commer cial herbicides"

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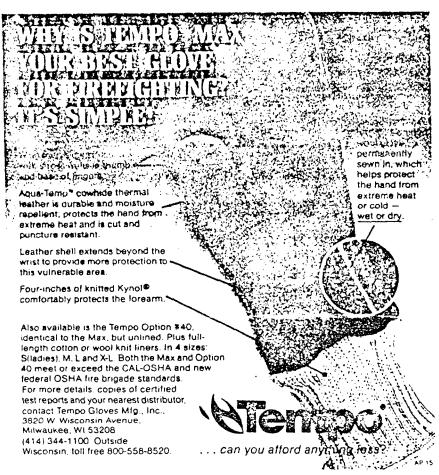
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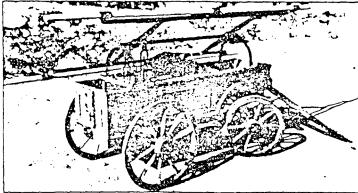


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He said that dioxin is a carcinogen, and that there was "ample evidence that industrial exposure to dioxin causes a whole range of conditions such as skin conditions, neurological disturbances, and possibly psychological and gastrointestinal disturbances."

Recently, new studies have raised doubts about the ability of standard protective garments to prevent PCB penetration and contamination. In research conducted by two scientists at

Though the EPA banned PCB manufacture in 1977, 295 million pounds are still used in electrical equipment in the U.S.

the Los Alamos National Laboratories, under contract to the National Institute for Occupational Safety and Health, 10 out of 13 "widely accepted" commercially available protective garments were found to be "unsatisfactory" for worker protection against PCBs and a group of similar compounds, the halogenated ethanes. According to the magazine Science News, PCBs penetrated some of the protective garments in just two or three minutes. The three garments which resisted PCB breakthrough were made of Viton, Teflon, and polyvinyl alcohol fabrics.

Although the EPA banned PCB manufacture in 1977, it is estimated that 295 million pounds still remain in use in electrical equipment in the U.S. The EPA has authorized the use of this equipment for the next 30 to 40 years.

"I can't understand why the transformer was not in a sealed vault," Assistant Chief Faughnan says. "It shouldn't even have been in the building."

Thomas Quanne, a Binghamton fire-fighter and public relations man for the union, is concerned about the way state officials handled the PCB fire. "They didn't know what they had," he said. "They were very nonchalant about it." The union, said Quanne, is still deciding what action, if any, to take. That will probably depend partially on the findings of an international panel of scientists, who will meet soon in New York City to talk about the fire, and how to clean the state building, which has been closed indefinitely.

"I got quite a few men on the department who served in Vietnam," Assistant Chief Faughnan savs, "and they told me about Agent Orange. The upshot is, if you have dioxin poisoning, there's no cure for it."

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PCFs spread by waste-oil use?

Feveral a U sittle environment I officilisa e focusina on was e-oil deulem as a major sue ce of warshread PCB (obly chlorina ed biohenvi) contamination in Midwest vaterways.

Investigators have shown that much of the was e oil and in vents from the stitul sources, such as the nical films electrical equipment munufactulers and power plants, are contaminated with PCbs once widely used in transformers and elect to motors. Olicia's have four ditruti most was e-oil dealers fail to creek whether the material tiev collect is contaminated before they recondition it for result. As a result, PCB liden oil is making its war into home and infustrial furnaces and onto county oils for dust control It is "one of the major sources in the wuntry for water polition dichred an Environ mental Pro a ion Asones oricial

Max Wilton but EPA's Kandas City Molipine and the wasterful haulars are "modern-day Typhod Mary's Trey don't understand the precum and can't course out what's high in the en-

I one rise rise et un Milinesota polision au her la are servinizi githe a tit tes of incetor in the assemble i constituted on the servinite githe a contaminated on The Lest case to Hill a Oil (Pipes on Minn), which received of shipments from a transformer salvaber in South Dakota, who e oil contained PCP, (CN Jan. 18 p. 16) according to the Miniesota Polision Control Agency (MPCN). Hicks says it was a say and by the saiviner that the oil contained in FCEs. The company results oil for use oin reads and as their to industries and since oils MPCN adds.

MPCA allo says two other dealers, Mankato Oil (Mankato Minn) and Hy Fit dinan (Minneaphilis) aile edit sold PCB Liden fact to customers the uding private horizs. Those froms claim they weren't aware they were selling contaminated oil.

Somples of recycled oil sold by such dealers has turned up fairly high PCB levels, says MPCA's Richard Fuble who adds that he often finds recycled oil with 100 part, per million of the contaminant. These are local small time collectors—who jet the oil tremselves from oil transformers of them mixing it with No 6 fuel oil for result to others. PCB concentration in oil originally collected from junked transformers or motors is often in junked transformers or motors is often in

thousands of parts per million," he auds.

The burning of PCB confirmated oil in furnaces releases the pollutants into the air, says MPCA and they mentually wind up in ground runoff into lakes and streams. That is one of the orgest sources of PCB contain nation in waterways adds MPCA biologist Marvin Hom.

Because PCBs are not water soluble they accumillate in river sediment and are it mested by fish PCB levels in fish sampled in Minnesota waters within the last several years have been hir nerough to prompt a ban on consumption of a batch of carp in Lake Pepin and a warning to those who hahed parts of the Mississippi River near Minneapolis rot to eat more than one meal of tah per week. At hough the ban has been lifted the consemption warning its still in effect. MPCA says PCB level in the fish are still high

Not Alone Rable says his state is not the only one inthistion a problem. Minnesota is probably more aware thin other states. Hora add, perhaps because thou sunds of gations of PCB ladin oil hipped from their ate was almost uppend to road, in lowal ist year.

The problem is watespread in Mich gan, two sity FPA Prainial (Chica o) Texic Substances Coordinator Kari B emer, authough state others sitry to track wastero i haulers. The burn is of contaminated oil is probably responsible for PCB pollution in Wisconsin where EPA analyses of show simples from a li courses in nonindustrial areas revealed PCB residues, he aids.

When oil that contained numerous hazardons substances includin PCBs sceped from an identification and disposal sidence in oil astream at Dilimer. Mor Lat April latate and federal officials traced the source to waste collector. Raymond Birs EPA initiated a \$500,000 clean properting pollution of a nearby scenic river.

Harry Gilmer of EPA's re tonal office in Kansas City said the dumping incident involved extremely toxic wastes. At certain spots around the disposal site he said PCB to icentrations in the ground reached 4 of The erri in of most of the wastes was unknown. Gilmer said although EPA traced the presence of brontophensicillorophensyl ether to Monsanto. The company says it have these some wastes although since the mid 1960s it has had a policy of tracing its wastes to assure they are disposed of property.

EPA says identifying the source of

contaminants in waste oil and even of the wastes themselves is very difficult. Collecters receive oil from n ling stations, truck Preta junkyards, transformer salvagers, a dipower plan sin accilion to "the buck doors of industry as one on shall calls it EPA's Bremer contends hat many waste haulers are paid by companies to care away their wastes. No questions are asked and "thry just want to he rid of the stuff he adds On the other hand Walt Kovalick of EPA's Hazardous Wasie Disposal section in Washington DCsays. Some companies are so concerned about their wastes that they send inagec tom out to watch where the wastes go

EPA says the new Resource Conservation and Recovery Act A II go a long way toward controlling imploper oil recocling. Under that law was e receivers will need permits to operate and will have to prove to EPA that they are disposing of wasks ligally. In addition, waste generators will have to test their was est and identify the comb of the pending law. "We still contihave teeth but we're getting arm."

Offers for coke unit

Alied Cremical is werening a least thee prophals to take 6 or its 2-0 000 tons/year hie camaged Seme Soi as Division exicipant at Tonawanda NY Alied which had been tiving to sull through unit before the fire cell call earlier this monihito sould down operations permanently because it estimated that repairs and renable at on would cost more than Sumition (CN Jun 13 p. 18). Since the nirel Alied has lowered its saking price by an unduclosed amount

One binder is J.D. Crane, who is leaving his job as vice president of Donner Hanna Coke Corp in Buffalo to form Tonawir Ja. Coke C. p. and to buy the coke plant. Crane becan organizing the commany after his attempt to get Donner Hanna to buy the plant failed last year. Crane and buy the plant failed last year. Crane and state agencies to get the plant back into operation and that this must be done no later than the end of January.

The coke oven bat erv he savs can be kept idle hot for only a limited time. Main the damage was to pollution control and tar storage facilities, the 65 coxe ovens were not surrously affected.

Allied says that one of the potential purchasers inspected the plant recently. The company adds that a plant operated by its plastics division on a 135 acre complex adjacent to the coke unit will be unallected by the closing of the coke operation.

Jonuary 25 1978 CHEMICAL WEEK 15

SUMMARY OF THE PCB REGULATIONS UNDER TSCA 40 CFR 761 (as of June 1985)

The following represents an outline of the main requirements of these regulations. Please refer to 40 CFR Part 761 for details.

Prohibitions

* The manufacture, processing, and distribution in commerce of PCBs is prohibited.

Authorizations

* The use of PCBs in electrical equipment is authorized under specified conditions (see reverse side).

Marking

* PCB transformers, capacitors, and containers must be marked with the specified $\rm M_L$ label. PCB storage areas and vehicles transporting PCBs must also be marked with the $\rm M_L$ label.

Storage For Disposal

- * PCB articles and containers must be dated when removed from service and placed into storage for disposal.
- * May store non-leaking PCB articles and liquids containing <500 ppm PCB for 30 days.
- * Liquids >500 ppm and any PCB article stored >30 days must be stored in an area that meets the requirements for a long term storage facility.
- * PCB articles or containers must be disposed of within one year of the date removed from service.

Disposal

- * PCB capacitors and liquids containing >500 ppm PCB must be incinerated in an EPA approved incinerator (e.g. ENSCO, SCA).
- * Liquids containing between 50 and 500 ppm may be disposed of in an EPA approved: incinerator; high efficiency boiler; or chemical waste landfill.
- * Non-liquids containing >50 ppm PCB may be disposed of in either an EPA approved incinerator or chemical waste landfill.

Recordkeeping

- * Owners or operators of PCB transformers must keep logs of the required periodic inspections of those units.
- * Owners or operators of a facility using or storing at one time at least one or more PCB transformers, 50 or more large PCB capacitors, or 45 kg of PCBs in PCB containers must develop and maintain an Annual Document for each year any of these conditions are met. The Annual Document summarizes the types and amounts of PCBs and PCB equipment in use, in storage, and disposed of each year and must be prepared by July 1 of the following year.
- * Owners or operators of long term storage facilities must maintain logs of monthly inspections of the facility and maintain records tracking PCBs and PCB items through the storage area.
- * Michigan Public Act 60 requires PCBs or PCB items transported for disposal be manifested. Facilities disposing of PCBs should have manifests for those shipments.

SUMMARY OF CURRENT PCB REGULATIONS (as of June 1985)

TRANSFORMERS* Classification by PCB Concentration

PCB CAPACITORS*
Containing >3 lbs Fluid

	"Non-PCB"	"PCB-Contaminated"	"PCB Equipment or PCB-Mixture"	
Regulated Activity	Less than 50 ppm	50-500 ppm	Greater than 500 ppm	(by nameplate or if pre-1979)
Use	Use as dust control agent not permitted for fluid; other-wise unregulated	Authorized use for remainder of equipment useful life	Authorized use for remainder of equipment useful life	Authorized for remainder of useful life***
Servicing (not including coil removal or rebuilding)	Unregulated	Permitted, except for topping off with PCB mixtures	Permitted, including topping off fluid with PCB mixtures	N/A
Rebuilding	Unregulated	Permitted by owner or 6.e.3.(b) exempt-ed service company	Not permitted	N/A
Inspection and Recordkeeping	Unregulated	Not required	Quarterly inspection required** at least 3 years after retirement	Not required
Marking/Labeling	Unregulated	Not required	Fluid and equip- ment marked "PCB- mixture" or "PCB- equipment"	If >2000 volts must mark immediately - If <2000 volts must mark when removed from service
Storage for Disposal	Unregulated	Approved facility required for fluid or fluid-filled transformer	Approved facility required for fluid or fluid-filled transformer	In approved facility if stored for > 30 days
Disposal of Fluid	Unregulated (except as shown above for use)	Approved landfill or incineration in high-efficiency boilers or EPA approved incinerators	EPA approved high- temperature incinera- tion required	EPA approved incinerator
Disposal of transformer carcass	Unregulated	Unregulated	Drain of free flowing liquid and landfill or incinerate	EPA approved incinerator

^{*}Excluding railroad transformers, transformers and capacitors posing an exposure risk to feed. PCB items posing such risk must be removed by October 1, 1985.

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risk must be removed by October 1, 1985.

**Reduced to annual inspection if PCB concentration is less than 60,000 ppm (6 percent) or 100 percent secondary containment is provided.

^{***}PCB capacitors not in "restricted access" situations (e.g. on pole mount) must be removed by October 1, 1988.

Most commonly identified problems in PCB inspections:

- 1) Failure to develop and maintain annual documents; annual documents incomplete; failure to include drums and contaminated transformers on annual documents (40 CFR 761.180)
- 2) Failure to conduct required transformer inspections either annually or quarterly and maintain required records (40 CFR 761.30(a))
- 3) Inadequate transformer inspection reports; especially failure to date and identify activities carried out when a leak is discovered (40 CFR 761.30(a))
- Failure to date containers or items placed in storage for disposal $(40 \text{ CFR } 761.\overline{65(c)})$
- 5) Failure to mark storage areas (temporary and long term) with the required M_{τ} mark (40 CFR 761.40(a))
- 6) Failure to identify end disposal sites and methods on the manifests (in comments section if necessary); failure to require and retain certificates of disposal from end disposal sites (40 CFR 761.60)
- 7) Failure to mark equipment as required; use of small or improper labels when the large M is appropriate (40 CFR 761.40, 40 CFR 761.45)
- 8) Exceeding storage time limits for temporary storage (40 CFR 761.65)
- 9) Inadequate containment for long term storage and for waiving requirement of quarterly transformer inspections; containment with cracks, drains to outside, porous construction materials (40 CFR 761.30, 40 CFR 761.65)
- 10) Failure to conduct and document monthly inspections of storage area (40 CFR 761.65)

PCB SUMMARY DOCUMENT FOR 1984

ABC COMPANY Prepared: 1-10-85 PCB

PCBs - In Service	UNITS	GALLONS	KG
Transformers Capacitors Containers	2 3 1	690 6.6 30	3761 35.6 164
PCBs Stored for Reuse			
Transformers Capacitors Containers	0 1 0	0 3.2 0	0 17 0
PCBs Stored for Disposal			
Transformers Capacitors Containers	0 0 1	0 0 -	0 0 50
PCBs Disposed Of			
Transformers Capacitors Containers	0 1 1	0 1.7 -	0 9.3 100
PCB Contaminated Equipment			
In Service Stored for Reuse Stored for Disposal Disposed of	2 0 0	37.3 0 0 0	129 0 0 0

^{**} See 1984 PCB Tracking Forms for equipment descriptions, storage and disposal details.

Facility Name: ABC Company

Address:

O Main Street

Anywhere, MI 49999

PCB TRACKING FORM

Period Covered: 1-1-84 thru 12-31-84

Preparation Date: 1-10-85

Prepared By: Ab P.C. Byfenel

V.P. Operations (517) 555-1212

No	. Item Description Use Location	Mfg	Serial No.	Volume Gallons		Contents	Status	Date Stored	Storage Site (Drum No.)	Ship Date	Manifest No.	*C/D?
1	500 KVA Transfor- mer Substation 1A	GE	GEH G3462 PB	180	981	Pyranol	In Use					
2	1500 KVA Trans- former Substation 2	Allis Chal.	398G51	510	2780	Chlorextrol	In Use					
3	50 KVA Pole Transformer Rear Parking Lot	Westhse	W81/311	35	121	Min Oil w/ 238 ppm PCBs	In Use					
4	15 KVAR Capacitor Ajax Furnace	GE	G39512	1.7	9.3	Pyranol	In Use					
5	15 KVAR Capacitor Ajax Furnace	GE	G39513	1.7	9.3	Pyranol	In Use					
6	15 KVAR Capacitor Ajax Furnace	GE	G39511	1.7	9.3	PYRANOL	In Use Dispd	10-2-83	Substation 2 Drum #83-1	1-3-84	MI000371	yes
7	50 KVAR Capacitor Furnace Surge Control	GE	A10001	3.2	17	Pyranol	In Use					
3	50 KVAR Capacitor Maintenance Crip	GE	A10002	3.2	17	Pyranol	Stored Reuse					
9	55 Gallon Drum Transformer Oil Substation 2	GE		30	164	Pyranol	In Use					
10	55 Gallon Drum (84-1) Substation 2				50	Small C's Debris rags absorbent	Stored Disp	5-30-84	Substation 2 Drum #84-1			
11	55 Gallon Drum (83-1) Substation 2					Item # 6 above absorbent	Stored Dispd	10-2-83	Substation 2	1-3-84	MI000371	yes
12	Compensator Starter Switch #1 Air Comp	GE	1L2H14	2.3	1	Untested Mineral Oil	In Use					

INVENTORY REPORT - DETAILED (FORM D)

1.	Page	D-	of	D-

PCBs AND PCB ITEMS STORED FOR DISPOSAL

2. Pe	riod Covered - January 1, to December 31,	3. Prepared By	*7. Date Prepared //
* 8.		4. Title	
• 9.		5. Phone No.	
10. A d	dress 13. Mailing Address	6. Location	
11. St	orage Facility Location		
12. Id	entification @ Site		

) Date		(I	i	I	1	t			Disposition/Shi	epod To	
Aite Item	Resoved	Placed Is		Contents		Volume	Description of Material/	Bacelved Pro	<u> </u>			Intended	
4. lees. No.	15. From Svc.	16. Storage	17. Item	18. Ident. a	19. in Eg*	20. (Gal.)*	21. Concentration of PCSe	22. Location	23. Dair	24. Company	25, Address*	26. Disposition	27. Date *
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*These items are required by TSCA regulations.

NOTE: This format could be used to inventory all PCB items, including in service equipment, and track through usage, storage and disposal.

25.	Certification:	
	Signature	
	Title	•
	Date	

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ABC COMPANY

PCB Transformer Inspection Record

1984

Manufacturer	General Electric	;		Location North end 1	Main Sub	
Serial Number_	GH 3940A 058 P			Dielectric Type/Vol.	Pyranol	380 Gal.
Action to conta	in the leak must	be taken immed	liately.	er. If leaks are discovered Action to repair/replace on the area provided below	the unit	must be initiated
Inspection Date	Inspected by	Non-Leaking	Leaking	Leak LocationQuantity	<u>Date*</u>	Repairs Completed
					and any company and any control of	
Action Date		Action Ta	ken/Repai	rs Completed		
	;	•				
•						

Date 1 Doy 83

Inspectors Name A FSCHER

Escation	Transformer Type	Gallons Dielectric	Leak Check	Action Taken and Serial Nur
vierchouse	1.7	376		
= 4 & 5 Chiller	G.E.	175	OK	
Sub 1	, VC VC	306 306	OK	
Sub 2	AC	306 306	OK	
Sub 3	AC AC	336 336	OK.	
Sub 4	AC AC	306 306	OK	
Sub 5	AC AC AC . AC	343 306 306 343	OK	
Sub 6	YC .	306 306	0K	
Sub 7	DA OA	306 306	OK	
Sub 8	AC AC	306 306	OK	
Sub 9	AC AC	306 306	OK	·
Sub 10	AC AC AC	306 306 312 306		81428 - DRAP IN CAN PRIP ON EDGE - REPARE WITH. TI-1-5 EMERG. REP KIT. 1600 INDU 83 Ref

^{*} W= Westinghouse, G.E. = General Electric, AC = Allis Chalmers

^{**} Use this column onl; if a leak is discovered.

INSPECTOR	

PCB LEAK REPAIR AND MAINTENANCE LOG

Note: This form is to be completed for incidences.	all PCB tra	ensformer 1	eak	
Serial Number:				
Date Leak Was Discovered:				
Estimated amount of fluid released:				
Location of any leak:				
Description of Clean-Up and Repair:				
Repair Initiated Date				-
Following a leak repair a daily inspect: that there is no leak.	ion must fol	llow until	it is not	ed
DATE	LEA	<u>AK</u>		
	YES	NO		
1.				
2.				
3.				
4.				
5.				
6.				
7.				
Contractor Used:				
Records Retention Three (3) years.			;	
Per PCB Regulations, 40CFR761.30 author:	izations.			
NOTE: - Proper Disposal must comply wi	th 40CFR761-	-60.		

- Active releases of PCB's must be contained.

Rev.5Dec84

INDID	Value	Units	Sample Date	Sample Type
AC1	(BDL)	ug/l	10/10/91	SM GRAB
Sum	0.000		2	
INDID	Value	Units	Sample Date	Sample Type
AC2	(BDL) (BDL)		05/19/93 05/20/93	
Sum	0.000	4	1	
INDID	Value	Units	Sample Date	Sample Type
AC3	(BDL) (BDL)	ug/l ug/l	05/19/93 05/20/93	
Sum	0.000	4	4	
INDID	Value	Units	Sample Date	Sample Type
ACP	(BDL) (BDL)	ug/l ug/l	12/10/91 03/18/92	
Sum	0.000	4	- 1	
INDID	Value	Units	Sample Date	Sample Type
ACR	(BDL) (BDL)	ug/l ug/l	12/10/91 03/11/92	
Sum	0.000		- 1	
INDID	Value	Units	Sample Date	Sample Type
ACU		ug/l	10/18/91 12/18/91	
Sum	0.000	4	· 	
INDID	Value	Units	Sample Date	Sample Type
ADJ	(BDL)	ug/l		
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
AFC	(BDL)	ug/l	01/22/92	GRAB

INDID	Value	Units	Sample Date	Sample Type
	(BDL)	ug/l	02/06/92	SM GRAB
Sum	0.000		4	
INDID	Value	Units	Sample Date	Sample Type
AMT	(BDL)	ug/l	12/18/91	GRAB
Sum	0.000	:	2	
INDID	Value	Units	Sample Date	Sample Type
APC	(BDL)	ug/l ug/l ug/l	12/02/87 04/26/88 05/16/90	GRAB
Sum	0.000		5	
INDID	Value	Units	Sample Date	Sample Type
ATA	(BDL)	ug/l	08/30/91	GRAB
Sum	0.000		2	
INDID	Value	Units	Sample Date	Sample Type
BAT	(BDL)	ug/l	09/04/91	GRAB
Sum	0.000	2	2	
INDID	Value	Units		Sample Type
BEN	(BDL) (BDL)	ug/l ug/l	10/13/93 06/28/94	24 HR. COMP. SM COMP.
Sum	0.000	4	1	
INDID	Value	Units	Sample Date	Sample Type
BL1	(BDL)		01/29/92	
Sum	0.000	2	2	
INDID	Value	Units	Sample Date	Sample Type
BL2	(BDL)	ug/l	Ø1/29/92	GRAB
Sum	0.000		2	

INDID	Value	Units		Sample Date	Sample Type
BL3	(BDL)	ug/l	_	01/29/92	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
BLS	(BDL) (BDL)	ug/l ug/l 		01/23/92 01/29/92	
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
BMF	(BDL) (BDL)	ug/l ug/l			GRAB 24 HR. COMP/
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
BO4	(BDL)	ug/l		11/19/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
в07	(BDL)	ug/l		11/19/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units	_	Sample Date	Sample Type
BO8	(BDL)	ug/l		11/19/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
BOC	(BDL) (BDL) (BDL) (BDL) (BDL)	ug/l ug/l ug/l ug/l ug/l ug/l		01/01/92 01/15/92 01/16/92 01/17/92 11/23/92 11/24/92 11/25/92	SM GRAB SM GRAB SM GRAB SM GRAB SM GRAB
Sum	0.000	1	4		

INDID	Value	Units		Sample Type
BPE	(BDL)	ug/l		
Sum	0.000	4		
INDID	Value	Units	Sample Date	Sample Type
ВРУ			12/13/91 01/22/92	
Sum	0.000	4		
INDID	Value	Units	Sample Date	Sample Type
BRD	(BDL)	ug/l	11/27/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
BRE	(BDL)	ug/l	11/27/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
BRG	(BDL)	ug/l	11/27/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
BRH	(BDL)	ug/l	11/27/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
BRN	(BDL)	ug/l	11/27/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
BRO	(BDL)	ug/l	11/27/91	SM GRAB
Sum	0.000	2		

INDID	Value	Units		Sample Date	Sample Type
BRP	(BDL)	ug/l	- 	11/26/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
BRQ	(BDL)	ug/l		11/27/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
BRT	(BDL)	ug/l	_	11/27/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
BWS	(BDL) (BDL)	ug/l ug/l		06/03/92 11/18/92	
Sum	0.000	***************************************	4		
INDID	Value	Units		Sample Date	Sample Type
CFS	(BDL)	ug/l	_	06/16/94	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
CLR	(BDL)	ug/l	_		SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
CLS	(BDL) (BDL)	ug/l		12/27/91	SM GRAB
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
CMC	(BDL)	ug/l		12/18/91 01/17/92	GRAB
Sum	0.000		<u>.</u>		

INDID	Value	Units		Sample Date	Sample Type
CUL	(BDL)				SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
DBL	(BDL)	ug/l 		12/04/91	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
DLS	(BDL)	ug/l		05/27/94	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
DMC	(BDL) (BDL) (BDL)			01/15/92	GRAB
Sum	0.000		6		
INDID	Value	Units		Sample Date	Sample Type
DOT	(BDL)	ug/l		01/13/92	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
DPS	(BDL) (BDL)	ug/l ug/l ug/l		12/11/91 01/27/92 12/11/92	GRAB
Sum	0.000		6		
INDID	Value	Units		Sample Date	Sample Type
DPU	(BDL)	ug/l ug/l		11/20/91 12/13/91	
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
DUW	(BDL)	ug/l		12/28/92	SM GRAB

INDID	Value	Units	Sample Date	Sample Type
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
EKE	(BDL)	ug/l	11/12/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
EKW	(BDL)	ug/l	11/12/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
FB1		ug/l ug/l ug/l	09/13/91 05/18/92 01/13/93	SM GRAB
Sum	0.000	6		
NDID	Value	Units	Sample Date	Sample Type
FB2	(BDL) (BDL) (BDL) (BDL)	ug/l ug/l ug/l ug/l	09/13/91 10/14/91 05/18/92 01/13/93	SM GRAB SM GRAB
Sum	0.000	8		
INDID	Value	Units	Sample Date	Sample Type
FB3	(BDL) (BDL)	ug/l ug/l ug/l ug/l	10/14/91	SM GRAB SM GRAB
Sum	0.000	8		
INDID	Value	Units	Sample Date	Sample Type
FB4	0.900 (BDL) (BDL) (BDL)	ug/l ug/l ug/l ug/l	09/13/91 10/14/91 05/19/92 01/13/93	SM GRAB
Sum	0.900	8		

INDID	Value	Units		Sample Date	Sample Type
FS4	(BDL)	ug/l		10/16/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
GBP	(BDL)	ug/l		10/25/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
GEO	(BDL) (BDL) (BDL)	ug/l		Ø4/25/88 Ø4/23/91	GRAB GRAB
Sum	0.000		8		
INDID	Value	Units			Sample Type
GLS	(BDL)	ug/l		04/23/91	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
GSC	(BDL)	ug/l	_	08/30/93	SM GRAB
Sum	0.000		2		
INDID	Value	Units	_	Sample Date	Sample Type
HAT	(BDL)	ug/l	_	07/24/91	GRAB
Sum	0.000		2		
INDID	Value	Units	_	Sample Date	Sample Type
HAV	(BDL)	ug/l		01/15/92	GRAB
Sum	0.000		2		
INDID	Value	Units	_	Sample Date	Sample Type
НМН	(BDL) (BDL) (BDL)	ug/l ug/l ug/l		04/26/91 01/23/92 02/05/92	SM GRAB

INDID	Value	Units	Sample Date	Sample Type
	(BDL)	ug/l	03/16/92	
	(BDL)	ug/l	04/05/92	
		_	05/11/92	SM GRAB
		ug/l	05/20/92	
		ug/l ug/l	06/26/92 08/23/92	SM GRAB SM GRAB
	(BDL)	ug/l	09/18/92	SM GRAB
	(BDL)	ug/l	11/10/92	
	(BDL)	ug/l	11/18/92	GRAB
	(BDL)	ug/l	11/25/92	
	(BDL)	ug/l	12/01/92	
	(BDL)	ug/l	12/18/92	
	0.140 (BDL)	ug/l ug/l	12/23/92 01/04/93	
	(BDL)		02/02/93	
	(BDL)	ug/l	02/08/93	
	0.180	ug/l	02/24/93	
	(BDL)	ug/l	06/03/93	
	(BDL)	ug/l	06/08/93	SM GRAB
	(BDL)	ug/l	06/11/93	
	(BDL) (BDL)	ug/l ug/l	Ø6/25/93 Ø6/26/93	SM GRAB SM GRAB
	(BDL)	ug/l	06/27/93	SM GRAB - 6/26
	(BDL)	ug/l	06/30/93	SM GRAB
	(BDL)	ug/l	07/01/93	SM GRAB
	(BDL)	ug/l	07/02/93	SM GRAB
	(BDL)	ug/l	07/13/93	SM GRAB
	(BDL)	ug/l	07/14/93	SM GRAB SM GRAB
	(BDL) (BDL)	ug/l ug/l	07/15/93 08/21/93	SM GRAB
	(BDL)	ug/l	08/22/93	
	(BDL)	ug/l	08/23/93	
	(BDL)	ug/l	08/27/93	SM GRAB
	(BDL)	ug/l	08/28/93	SM GRAB
	(BDL)	ug/l	09/30/93	SM GRAB SM GRAB
	(BDL) (BDL)	ug/l ug/l	10/01/93 10/07/93	SM GRAB
	(BDL)	ug/l	10/08/93	SM GRAB
	(BDL)	ug/l	10/14/93	SM GRAB
	(BDL)	ug/l	10/15/93	SM GRAB
	(BDL)	ug/l	11/05/93	SM GRAB
	(BDL)	ug/l	11/11/93	SM GRAB
	(BDL) (BDL)	ug/l	11/12/93 11/17/93	SM GRAB SM GRAB
	(BDL)	ug/l ug/l	11/19/93	SM GRAB
	(BDL)	ug/l	11/20/93	SM GRAB - 11/19
	(BDL)	ug/l	11/24/93	SM GRAB
	(BDL)	ug/l	11/25/93	SM GRAB - 11/24
	(BDL)	ug/l	12/01/93	GRAB
	(BDL)	ug/l	12/02/93	SM GRAB - 12/1
	(BDL)	ug/l	12/03/93	SM GRAB - 12/1
	(BDL) (BDL)	ug/l	12/04/93 12/05/93	SM GRAB SM GRAB - 12/2
	(BDL)	ug/l ug/l	12/05/93	GRAB - 12/2
	(BDL)	ug/l	03/23/94	SM GRAB
	(111)	49/1	VO / LO / J=	~1

INDID	Value	Units	Sample Date	Sample Type
Sum	(BDL)			SM GRAB SM GRA
INDID	Value			Sample Type
HPC	(BDL)			
Sum	0.000	4		
INDID	Value	Units	Sample Date	Sample Type
HUM	(BDL)	ug/l	12/11/91	SM GRAB
Sum	0.000	4		

INDID	Value	Units	Sample Date	Sample Type
нхн	(BDL)	ug/l		GRAB
Sum	0.000		2	
INDID	Value	Units	Sample Date	Sample Type
IEN	(BDL)	ug/l		GRAB
Sum	0.000		2	
INDID	Value	Units	Sample Date	Sample Type
IKI	(BDL)	ug/l		GRAB
Sum	0.000		2	
	Value (BDL)	Units ug/l		
71411			04/26/88	
Sum	0.000		4	
INDID	Value	Units	Sample Date	Sample Type
INP	(BDL)	ug/l	11/12/91	SM GRAB
Sum	0.000	:	2	
INDID	Value	Units	Sample Date	Sample Type
INQ	(BDL)	ug/l	11/12/91	SM GRAB
Sum	0.000	:	2	
INDID	Value	Units	Sample Date	Sample Type
IOC	(BDL)	ug/l		
Sum	0.000	2	2	
INDID	Value	Units		Sample Type
JR1	(BDL)	ug/l		SM GRAB
Sum	0.000		2	

INDID	Value	Units		Sample Date	Sample Type
JR2	(BDL)	ug/l	_	11/26/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
JR3	(BDL)	ug/l		11/26/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
JR5	(BDL)	ug/l			SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
JRC	(BDL) (BDL) (BDL) (BDL)	ug/l		04/25/88 04/23/91	GRAB GRAB
Sum	0.000		8		
INDID	Value	Units	_	Sample Date	Sample Type
JRG	(BDL)	ug/l	_	11/06/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units	_	Sample Date	Sample Type
JRP	(BDL)	ug/l	_	06/04/92	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KAO	(BDL) (BDL)	ug/l ug/l		12/04/91 01/09/92	
Sum	0.000		4		
INDID	Value	Units	_	Sample Date	Sample Type
KBS	(BDL)	ug/l ug/l	_	04/05/94 08/29/94	

	Value	Units			Sample Type
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
KC1	(BDL)	ug/l			SM GRAB
Sum	0.000		2		
INDID	Value	Units			Sample Type
KC3	(BDL)	ug/l		10/29/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units			Sample Type
KCC	(BDL)	ug/l		11/13/91	SM GRAB
Sum	0.000	*	2		
INDID	Value	Units		Sample Date	Sample Type
KEP	(BDL)	ug/l			SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KGZ	(BDL)	ug/l		02/12/92	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KL1	(BDL)	ug/l		06/15/92	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KL2	(BDL)	ug/l		06/15/92	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KLL1		ug/l		06/15/92	SM GRAB

INDID	Value	Units		Sample Date	Sample Type
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KLL2	(BDL)	ug/l			SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KMF	(BDL)	ug/l		02/05/92	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KSC	(BDL)	ug/l		11/06/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KSD	(BDL)	ug/l		02/19/92	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
KSG	(BDL)	ug/l	_	02/12/92	GRAB
Sum	0.000		2		
INDID	Value	Units	_	Sample Date	Sample Type
KSH	(BDL) (BDL) (BDL)	ug/l ug/l ug/l		11/08/91 11/26/91 03/03/92	GRAB SM GRAB SM GRAB
Sum	0.000		6		
INDID	Value	Units		Sample Date	Sample Type
KTF	(BDL)	ug/l	_	06/15/92	SM GRAB
Sum	0.000		2		

INDID	Value	Units	Sample Date	Sample Type
LAK	(BDL) (BDL)	_	10/18/91 01/08/92	
Sum	0.000		4	
INDID	Value	Units	Sample Date	Sample Type
LOW	(BDL)	ug/l	07/19/94	SM GRAB
Sum	0.000	:	2	
INDID	Value	Units	Sample Date	Sample Type
LRE	(BDL) (BDL)	ug/l ug/l		SM COMP GRAB
Sum	0.000	4	1	
INDID	Value	Units	Sample Date	Sample Type
LSF	(BDL) (BDL)	ug/l ug/l	10/24/91 01/22/92	
Sum	0.000		- 1	
INDID	Value	Units	Sample Date	Sample Type
LSI	(BDL)	ug/l	03/25/92	GRAB
Sum	0.000	2	2	
INDID	Value	Units		Sample Type
LWS	(BDL)	ug/l	04/21/94	SM GRAB
Sum	0.000	2	2	
INDID	Value	Units	Sample Date	Sample Type
MCC	(BDL)	ug/l	01/09/92	SM GRAB
Sum	0.000	2	?	
INDID	Value	Units	Sample Date	Sample Type
MDS	(BDL) (BDL)	ug/l ug/l	12/17/91 11/08/93	SM GRAB GRAB
			•	

INDID	Value	Units	Sample Date	Sample Type
Sum	0.000	4	<u> </u>	
INDID	Value	Units	Sample Date	Sample Type
MER	(BDL)			GRAB
Sum	0.000	2	2	
INDID	Value	Units	Sample Date	Sample Type
MRD	(BDL)	ug/l		
Sum	0.000	2		
INDID	Value	Units		Sample Type
NCA	(BDL)			SM COMP.
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
NUC	(BDL) (BDL)		12/05/91	SM GRAB
Sum	0.000	4		
INDID	Value	Units	Sample Date	Sample Type
OHL	(BDL) (BDL) (BDL) 110.000	ug/l ug/l ug/l ug/l	12/12/91 03/12/92 05/13/92 01/14/93	SM GRAB
Sum	110.000	8		
INDID	Value	Units	Sample Date	Sample Type
OWE	(BDL) (BDL) (BDL)	ug/l ug/l ug/l	05/05/92 06/09/92 06/26/92	SM GRAB
Sum	0.000	6		•
INDID	Value	Units	Sample Date	Sample Type
PAR	(BDL)	ug/l	04/23/91	GRAB

INDID	Value	Units	Sample Date	Sample Type
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
PBP	(BDL)	ug/l	01/16/92	GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
PLI	(BDL) (BDL)	ug/l ug/l	09/26/91 11/09/93	
Sum	0.000	4		
INDID	Value	Units	Sample Date	Sample Type
PN1		ug/l ug/l ug/l		SM GRAB
Sum	0.000	6		
INDID	Value	Units	Sample Date	Sample Type
PN2	(BDL) (BDL)	ug/l ug/l	03/04/92 05/14/92	24 HR. COMP. SM GRAB
PN2 Sum			03/04/92 05/14/92	24 HR. COMP. SM GRAB
	(BDL)	ug/l 	03/04/92 05/14/92 Sample	24 HR. COMP. SM GRAB
Sum	(BDL) Ø.000	ug/l 4	05/14/92 Sample	Sample TypeGRAB SM GRAB SM GRAB SM GRAB
Sum	(BDL) 0.000 Value (BDL) (BDL) (BDL)	Units ug/l ug/l ug/l	05/14/92 Sample Date 03/04/92 05/14/92 01/06/93	Sample Type GRAB SM GRAB SM GRAB SM GRAB
Sum INDID PN4	(BDL) Ø.000 Value (BDL) (BDL) (BDL) (BDL)	Units ug/l ug/l ug/l ug/l ug/l	05/14/92 Sample Date 03/04/92 05/14/92 01/06/93	Sample Type GRAB SM GRAB SM GRAB SM GRAB
Sum INDID PN4 Sum	(BDL) 0.000 Value (BDL) (BDL) (BDL) (BDL) (BDL)	Units ug/l ug/l ug/l ug/l ug/l	Sample Date 03/04/92 05/14/92 01/06/93 11/17/93	Sample TypeGRAB SM GRAB SM GRAB SM GRAB SM GRAB SM GRAB

INDID	Value	Units		Sample Date	Sample Type
PNC	(BDL) (BDL) (BDL)	ug/l ug/l			SM GRAB
Sum	0.000	~	6		
INDID	Value	Units		Sample Date	Sample Type
POP	(BDL) (BDL)				SM GRAB 24 HR. COMP.
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
POR	(BDL)	ug/l			GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
PPP	(BDL)	ug/l	_	12/05/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
RAM	(BDL)	ug/l		09/04/91	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
RLF	(BDL)	ug/1		11/06/91	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
SCM	(BDL)	ug/l		11/14/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
SGO	(BDL)	ug/l		09/11/91	GRAB
Sum	0.000		2		

INDID	Value	Units	Sample Date	Sample Type
SSI	(BDL) (BDL)	ug/l ug/l		
Sum	0.000	4	- 1	
INDID	Value	Units	Sample Date	Sample Type
SSS	(BDL)	ug/l	01/23/92	SM GRAB
Sum	0.000	2	2	
INDID	Value	Units	Sample Date	Sample Type
STB	(BDL)	ug/l	11/02/92	SM GRAB COMP
Sum	0.000	2	2	
INDID	Value	Units	Sample Date	Sample Type
STBR	(BDL)	ug/1	03/24/92	GRAB
Sum	0.000	2	2	
INDID	Value	Units	Sample Date	Sample Type
STM	(BDL)	ug/l	04/15/94	SM GRAB
Sum	0.000	2	2	
INDID	Value	Units		Sample Type
STR	(BDL)	ug/l		GRAB
Sum	0.000	2	}	
INDID	Value	Units		Sample Type
SUM	(BDL)			
Sum	0.000	2		
INDID	Value	Units		Sample Type
TEX	(BDL)	ug/l		
Sum	0.000	2		

INDID	Value	Units		Sample Date	Sample Type
TNT	(BDL)				
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
TOD	(BDL)	ug/l		11/22/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
TRI	(BDL)	ug/l		11/20/91	GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
UCC	(BDL)	_			
Sum	0.000		4		
TNDTD	Value	IInita		Sample Date	Cample Marne
		Units			
UJ 5	(BDL)	ug/l		04/28/94	SM COMP.
Sum	0.000		2	_	
INDID	Value	Units		Sample Date	Sample Type
UJA	(BDL)	ug/l		11/05/91	SM GRAB
Sum	0.000		2		
INDID	Value	Units		Sample Date	Sample Type
UJB	(BDL) (BDL) (BDL)	ug/l ug/l ug/l ug/l		12/09/87 04/26/88 04/23/91 11/07/91	
Sum	0.000	· — — — ·	8		
INDID	Value	Units		Sample Date	Sample Type
UJC	(BDL)	ug/l		11/07/91	SM GRAB

INDID	Value	Units	Sample Date	Sample Type
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJD	(BDL)	ug/l	11/07/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJF	(BDL)	ug/l		SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJJ	(BDL)	ug/l		GRAB COMP.
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJK	(BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL)	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	04/28/93 04/29/93 05/27/93 11/30/93 04/28/94 07/28/94	GRAB 24 HR. COMP. SM GRAB SM GRAB SM GRAB SM COMP. 24 HR. COMP. 24 HR. COMP. SM COMP. SM COMP. SM COMP. SM COMP.
Sum	0.460	28		
INDID	Value	Units	Sample Date	Sample Type
UJM	(BDL)	ug/l	04/28/93	24 HR. COMP.
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJP	(BDL)	ug/l		

INDID	Value	Units	Sample Date	Sample Type
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJQ	(BDL)	ug/l		24 HR. COMP.
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJR	(BDL)			SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJS	(BDL)	ug/l	11/07/91	
Sum	0.000	4		
INDID	Value	Units	Sample Date	Sample Type
UJT	(BDL)	ug/l	11/08/91	SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
UJV Sum	0.210 (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (BDL) (ABDL) (BDL) (BDL) (BDL) (BDL) (BDL)	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	11/07/91 02/06/92 05/01/92 05/29/92 09/10/92 09/11/92 09/12/92 11/19/92 04/28/93 04/29/93 05/27/93 11/30/93 04/26/94	SM GRAB GRAB 24 HR. COMP. SM GRAB SM GRAB SM GRAB SM GRAB SM COMP. 24 HR. COMP. 24 HR. COMP. SM COMP. SM COMP. SM COMP.
วนแ	4.000	24	Sample	
INDID	Value	Units	Sample Date	Sample Type
UJX	1.200 (BDL)	ug/l ug/l	11/07/91 02/06/92	SM GRAB GRAB

INDID	Value	Units	Sample Date	Sample Type
		ug/l ug/l	05/29/92 04/28/93 04/30/93	24 HR. COMP. 24 HR. COMP. SM COMP. SM COMP.
Sum	1.900	16		
INDID	Value		Sample Date	Sample Type
VIC	(BDL)	ug/l		
Sum	0.000	2		
INDID	Value	Units		Sample Type
VPL	(BDL)		11/13/91	GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
VSS	(BDL)	ug/l		SM GRAB
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
WC2	(BDL)	ug/l	11/07/91	SM COMP.
Sum	0.000	2		
INDID	Value	Units	Sample Date	Sample Type
WEL	(BDL) (BDL) (BDL) (BDL)	-	01/15/92 03/23/92 06/09/92 12/01/92 06/01/93 12/01/93	GRAB SM GRAB SM GRAB SM GRAB
Sum	0.000	12		
INDID	Value	Units	Sample Date	Sample Type
WLI	(BDL)	ug/l	11/13/91	GRAB
Sum	0.000	2		

INDID	Value	Units		Sample Date	Sample Type
WM5	(BDL)			11/12/91 12/02/92	
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
WM7	(BDL) (BDL)	ug/l ug/l		11/12/91 12/02/92	SM GRAB SM GRAB
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
WM8	(BDL)	ug/l ug/l		11/13/91 12/02/92	
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
WM9	(BDL) (BDL)				SM GRAB SM GRAB
Sum	0.000		4		
INDID	Value	Units		Sample Date	Sample Type
WMP	(BDL)	ug/l		11/08/91	SM GRAB
Sum	0.000		2		



Analytical Laboratory Report City of Kalamazoo FECL #: AA00117 thru AA00122 February 3, 1993 Page 3 of 3

FECL #: Tag:	AA00117 1 TE 00893	AA00118 2 II 00893	Aa00119 3 PI 00893
Metals - Method 245.1			
Mercury	< 0.0005 mg/l	< 0.0005 mg/l	< 0.0005 mg/l
Organic - Method 608			
PCB	0.0013 mg/l /	<0.001 mg/l**	<0.0001 mg/l
FECL #: Tag:	AA00120 4 BPC 00793	AA00121 5 DSE 00793	AA00122 6 IA 00793
Metals - Method 245.1			
Mercury	0.047 mg/kg*	0.211 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	27.5 %	55.9 %	100 %
Organic - Method 8080	•		
PCB	<0.3 mg/kg*	<0.3 mg/kg*	<0.3 mg/kg*

17 332-0167 relled 8.15. Febro, 202

Rerun souple - 0/39

Violetta F. Murshak Laboratory Manager

VFM/ajc

^{*:} Analyzed on a dry weight basis.

**: Higher Detection Limit due to matrix interference.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

GREAT LAKES NATIONAL PROGRAM OFFICE 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

"JUL 1 J. 1996"

Mr. Robert E. DeMink Wastewater Superintendent Department of Public Utilities The City of Kalamazoo 1415 N. Harrison Kalamazoo, Michigan, 49007-2565

Dear Mr. DeMink:

Thank you for your letter of March 8 concerning our paper titled "PCB Sources and Regulations" in which we cited PCB discharges from Kalamazoo's water reclamation plant (KWRP) during 1993. This paper was developed to support our "Virtual Elimination" project, which aims to spur further reductions in environmental levels of mercury and PCBs in common sense ways.

Your letter stated that cited PCB discharges from KWRP were unrepresentative. We are pleased to adopt Alternative One in your letter, based on the supplementary sampling data you provided. This averages all effluent samples during the relevant time period, which is consistent with how we have adjusted discharge estimates for other facilities when they have provided supplementary effluent samples. As a result, we have halved KWRP's estimated discharge of PCBs during 1993. In future copies of our Virtual Elimination paper, we will reflect this revised estimate.

I should explain why your preferred Alternative Two is less consistent with our method and suited to our purpose. Including influent and biosolid samples and expanding the time period would be inconsistent with our estimation method. The purpose of our estimates is to provide an "indicator" of aggregate discharges from all reporting facilities (rather than the discharge from KWRP or any other in particular). We expect that over hundreds of dischargers, some of the episodic variance in PCB detections "evens out," yielding a best estimate of aggregate PCB discharges to the Great Lakes from the United States side.

Your letter also expressed concern regarding regulation of PCBs under the Toxic Substances Control Act (TSCA): "burdens are eliminated when PCB concentrations fall below 50 mg/l. This regulatory philosophy may be beneficial to the parties regulated under TSCA, but creates a compliance nightmare for Great Lakes POTWs." Bioaccumulation in aquatic food webs is

the principal risk posed by PCBs, hence water quality criteria are appropriately low. PCBs present much less human health risk via other paths, such as the terrestrial food chain, drinking water, and inhalation. TSCA rules generally do not regulate disposal of PCB wastes with concentrations beneath 50 parts per million (ppm). Yet the apparent difference between TSCA and the Clean Water Act can be at least partly reconciled in that TSCA does not govern direct discharging of undiluted PCBs under 50 ppm to surface waters. Put another way, TSCA does not allow pouring of PCB wastes into surface water, so in that sense TSCA and the Clean Water Act are consistent.

Also, your letter recommended that EPA provide publiclyowned treatment works (POTWs) with a list of companies where this Agency has record of PCB use. EPA currently does not have records concerning companies in the Great Lakes watershed which hold PCBs. However, proposed regulations would require firms holding PCB transformers to inform EPA. If this provision is finalized, we would provide such information to you as soon as it became available.

In relation to your letter's recommendation for educational programs regarding PCB disposal, my office would certainly consider grant proposals from POTWs to support innovative outreach to their customers.

Publicly-owned treatment systems have been responsible for noteworthy progress in protecting public health and the environment during the past several decades. In few places is this legacy more evident than in the Great Lakes watershed. Yet your letter makes evident that you have concerns about "billions" of environmental costs facing POTWs. EPA's own estimates of the costs entailed in its recently promulgated Great Lakes Water Quality Guidance are far lower and are available to the public. In addition, this Agency is broadly committed to achieve, in the recent words of Administrator Browner, "common-sense, cost-effective measures that produce the very best environmental results for the least cost."

Thank you for taking the time to express your concerns. I apologize that we have not responded more quickly; your letter raised several cross-cutting issues, hence this response necessitated coordination which consumed time. If you have further questions, please call me at (312) 886-4040, or Frank Anscombe of my staff, 353-0201.

enris Grundler

Director

cc: Kenneth P. Collard, Public Services Director, City of Kalamazoo

Tracey Mehan, Michigan Department of Natural Resources Rich Powers, Michigan Department of Natural Resources Greg Danneffel, Michigan Department of Natural Resources

Maggie Fields, Michigan Department of Natural Resources



DEPARTMENT OF PUBLIC UTILITIE

Water Reclamatic
 1415 N. Harrisc
 Kaiamazoo Michigan 49007 25c
 [616] 337 81
 FAX [616] 337 86

March 31, 1995

Hand Delivered

Mr. Fred Morley
Plainwell District Supervisor
Surface Water Quality Division
Michigan Department of Natural Resources
District 12 Headquarters
P.O. Box 355, 621 North Tenth Street
Plainwell, Michigan 49080

Re: Annual Industrial Pretreatment Program (IPP) Report for 1994

Dear Mr. Morley:

Please find the Industrial Pretreatment Program Annual Report for the City of Kalamazoo Water Reclamation Plant (KWRP) enclosed. The January 1, 1994 through December 31, 1994 reporting period is covered in this report.

This year we have included extensive data to cover the requirements in Section V. Because of the volume and the many different sources that generated the data, it was impractical to provide the data on the format sheet provided with the report.

Please call me at (616) 337-8716 if you have any questions regarding this report.

Sincerely,

Timothy G. Meulenberg

Industrial Services Supervisor

TM:rjg/ipp/ann_rept_94

c: Kenneth P. Collard, Director of Public Services Robert E. DeMink, Wastewater Superintendent Bruce E. Merchant, Wastewater Systems Manager Robert H. Cinabro, City Attorney Robert C. O'Day, Industrial Inspections Supervisor file

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February 10, 1995

Mr. Greg Danneffel

Mr. Greg Danneffel Michigan Department of Natural Resources 621 N. 10th Street PO Box 355 Plainwell, MI. 49080

Dear Mr. Danneffel:

Please be aware of a clarification made on the City of Kalamazoo Water Reclamation Plant (KWRP) Discharge Monitoring Report. The KWRP NPDES Permit # MI0023299 specifically states that we are required to follow sampling procedures, preservation and handling techniques, and analytical protocol in accordance with U.S.EPA Method 608 when monitoring for PCBs.

U.S.EPA Method 608 allows for both grab and automatic sampling techniques. Due to the complications involved in sampler cleanup and restrictions placed on the type of materials used in sampler construction, we have chosen to use the grab sample technique when monitoring for PCBs.

The KWRP monitors six different locations for PCBs. Monitoring the Municipal and Industrial Influent, Belt Press Cake, Incinerator Ash, DSE Cake, and Tertiary Effluent by the grab sample technique provides us with consistency at all locations, a wide window to assess PCB loadings and the QA/QC requirements necessary to meet the stringent limitations placed in our NPDES Permit.

Please be aware that monthly discharge reports, have mistakenly indicated that the PCB monitoring has consisted of a 24-hour composite sample. If you have any concerns regarding this matter please let us know.

Sincerely,

Robert DeMink
Wastewater Superintendent

c: B. Merchant file

INSPECTIONMEETINGPHONE CONVERS.	ATIONOBSERVATION .
Name of Facility: Armie Keder	Date: 11/14/94
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Contact:	
Phone: (312) 886-0133	
Topic:	
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Cleaning Procedures for Oil and Grease:

The approved method of analysis for Oil and Grease is gravimetric extraction (Standard Methods for the Examination of Water and Wastewater, 17th edition, 1989, method #5520B or Methods for Chemical Analysis of Water and Wastes, 1983, method #413.1) When sampling for oil and grease, it is necessary to use a wide mouthed glass jar, which has been rinsed with the solvent used in the extraction process. Currently, freon is used as the solvent in this process. A substitute for freon is currently being researched and may result in an alternative analytical method. The cleaning method for oil and grease is the following. (1) detergent wash, (2) tap water rinses, and (3) solvent rinse. It is recommended that the sample bottles have a teflon-lined cap. If this is not possible, there should be either aluminum foil or cut teflon pieces which cover the areas where the bottle and the cap meet. The teflon or aluminum foil used must also be prepared, following the same cleaning procedures as the sample bottle.

Cleaning Procedures for Organic Analysis:

Volatile Organic Compounds

Generally, the glassware used to collect volatile organic samples is precleaned. When glassware needs to be cleaned, the procedure in 40 CFR 136 may be followed. EPA method 624 states that the vials and the septa must be cleaned as follows. (1) detergent wash, (2) tap water rinses, (3) distilled water rinses, and (4) drying at 105°C.

Semi-volatile Organic Compounds, Organochlorine Pesticides, and PCBs

Semi-volatile organic samples should be collected in amber bottles according to 40 CFR 136 Methods 625 and 1625. Organochlorine pesticides and PCB samples should also be collected in amber bottles according to 40 CFR 136, Method 608. If amber bottles are not available, the samples must be sheltered from the light. The sample bottles (including cap liner, either teflon or foil) and the collection vessels for semi-volatile organic compounds, organochlorine pesticides, and PCBs must be cleaned by the following procedure. (1) detergent wash, (2) tap water rinses, (3) distilled water rinses, (4) solvent rinse (method 625 lists acetone or methylene chloride), and (5) drying. If one or more of the samples is being collected in a sampling vessel, the sampling vessel must be cleaned for all parameters. Examples of this include

- Sampling for conventional pollutant analysis and metals analysis the collection vessel must be detergent washed and then acid washed (following the steps for metals cleaning listed above)
- Sampling for metals analysis and semi-volatile organic analysis the collection vessel must be acid
 washed (following the steps above) and then solvent rinsed. The initial steps in the semi-volatile
 organic cleaning do not need to be repeated in this case (only the solvent rinsing) since they were
 already done in the metals cleaning procedure.

Cleaning of Automatic Sampling Equipment:

Generally, the sampler tubing and inner parts of the sampler (e.g., distribution arm, S-tube, and compressed silicon tubing) which come into contact with the effluent are cleaned using the following procedure (1) detergent wash, (2) tap water rinses, and (3) distilled water rinses. If the sampler is to be used to collect semi-volatile organic and/or organochlorine pesticide and PCB samples, additional cleaning is required. 40 CFR 136, Methods 625 and 608, respectively, states that the automatic sampler must be as free as possible of contaminants in the Tygon tubing and any other potential source of contamination. One suggestion for the replacement of Tygon sampler tubing is the use of teflon tubing. These methods also state that if the sampler has a peristaltic pump, a minimum length of compressible silicon rubber tubing may be used. Before it is used, the compressible silicon tubing must be cleaned using the following procedure. (1) methanol rinse, and (2) distilled water rinses. If the sampler used has an S-tube, it must be cleaned by following the same procedure as for the sample bottles for semi-volatile organic compounds, organochlorine pesticides, and PCBs. As an alternative, some POTWs may prefer to replace tubing prior to each use of the automatic sampler.

Preparing Field Instruments

The most common parameters tested in the field are pH, residual chlorine, temperature, and dissolved oxygen. For these four parameters, 40 CFR 136 states that they must be analyzed immediately. The term "analyze immediately" means that the parameter should be analyzed within 15 minutes of the sampling. These analytical parameters cannot be preserved, and therefore, must be analyzed in the field. The electronic and photometric instruments used to monitor these different parameters should be checked prior to leaving the office. The instruments should be in good condition, have charged batteries be calibrated, and have all appropriate standards already made. If an instrument is calibrated in the office prior to going into the field, if must be recalibrated once you reach your sampling location.

pH Meters:

In the field, pH samples are analyzed using a portable pH meter. The meter may either analyze individual samples or do continuous readings with a recorder (e.g., strip chart). pH meters must have a minimum of two point calibration (see EPA method 150 l section 7). (NOTE—If there are separate manufacturer's specification for calibration, these procedures must be followed. Otherwise use the procedures outlined in the remainder of the paragraph). The pH meter should be calibrated using two fresh buffer solutions. The buffers that are used to perform the calibration should bracket the expected pH range of the wastewater that is being sampled and should be at least 3 SU or more apart. If the buffer solutions are bought already made, it is important to note their shelf life and dispose of buffers when their expiration date has passed. A log book with calibration information for the pH meters should be maintained. This allows

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Prepared by

ROSS & ASSOCIATES

ENVIRONMENTAL CONSULTING, LTD.

Under Contract to

Science Applications International Corportation

Region 5 has also estimated the number of remaining PCB transformers and capacitors as part of its efforts to phaseout this equipment. EPA estimates that Region 5 may have 17,500 PCB transformers and 400,000 PCB capacitors. Many of these items have several years left of useful life. As PCB equipment approaches the end of its useful life, spills become more common. EPA estimates that 3.3% of transformers and 0.75% of capacitors will spill, with 560 transformer leaks and spills, and 3000 capacitor leaks and spills annually. Utilities in the Great Lakes states estimate that they have already removed 87% of their PCB equipment.

Toxic Chemical Release Inventory (TRI). Appendix H2 shows TRI PCB releases for the Great Lakes states. TRI tracks chemical releases from facilities in the manufacturing sector (SIC codes 20-39) that meet reporting thresholds. TRI thresholds are based on the quantity of each substance used, processed, manufactured, or imported at any of these facilities. Appendix H2a includes 1992 data for the eight Great Lakes states, including any source reduction activities implemented by each facility. Nine facilities reported PCB releases in 1992. All PCB releases were reported as offsite transfers. No facilities reported releases to air or water. Table 3 shows the types of releases reported in TRI. Electric utilities do not fall into the SIC code range covered by TRI, and therefore do not report any PCB activities under this program.

PCS data. Appendix H3 contains data from EPA's Permit Compliance System (PCS) for water discharges. PCS data approximates point source loads from municipal and industrial dischargers. The information is based on monitoring data supplied by regulated facilities. EPA uses PCS data as the basis for its enforcement program. In 1993, eight facilities reported PCB discharges in Region 5 during 1993.

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National Response Center. Spills of PCBs that exceed one pound must be reported to the National Response Center. Based on National Response Center data, Region 5 land 27% of the nation's spills from 1987-1992. Michigan, alone, had nine percent of the nation's spills, and 34% of the Region's spills.

NAME KALAY DO WYTD MAJOR (2 16) (17-19) Form Approved. NI0923299 (SUBR PP) OMB No. 2040-0004. ADDRESS 415 N. HARRISON -0.01 A DISCHARGENUMBER F - FINAL Approval expires 6-30-91. __ C.C.S.A.I.A.Z.A.Z PERMIT NUMBER OUL/TREATED MUNICIPAL VASTERAD MONITORING PERIOD FACILITY DAY YEAR LOCATION то 73 本本年 NO DISCHARGE | | 本本本 0.1ਹ1 93 UI 31 NOTE: Read instructions before completing this form. ACCOUNT JEHOR : 4714 (20 21) (22 23) (24 25) (26 27) (28 29) (30 31) QUANTITY OR LOADING (4 Card Only) QUALITY OR CONCENTRATION (3 Card Only) FREQUENCY SAMPLE NO. PARAMETER (46.53) (54.61)(38-45)(46-53)TYPE ANALYSIS (32.37)AVERAGE MAXIMUM UNITE MINIMUM AVERAGE MAXIMUM UNITS (62-63) (64-68) (69.70) 李章 李字 李字 ₽DEYCHIORENATED **** 医溶液溶液定法 TWICE/Comp24 **文学文学文学** (28) SAMPLE MEASUREMENT monthly TORENYL - (PCB3) B9516 B C 1 存款存款存款存 **我们我们你们, 泰泰泰泰泰泰** 0.00002 故障你位置你 THICE/COMP24 PERMIT REQUIREMENT יווא אדידות סיי גטוג. 存む存む 30DA AVG 13/L HTHOM FLOW IN COMPUTE OR 建设的企业设计 液浆溶液液涂 杂杂杂杂杂杂杂 (93)) SAMPLE 33.6 38.3 O CONT. MEASURES MEASUREMENT EARU TREATMENT PLANT 5005} 1 0 0 PERMIT REQUIREMENT REPORT REPORT **** 水水水水水水 旅游双路旅游 海南下北 DATLY MEASRD FELUERT GROSS VALUE 30DA AVG DAILY MX MGD LILORINE, TOTAL **ネな水水水水**水 **拉拉拉拉拉拉** ***** **** (19) SAMPLE DAILYGRAR 0.022 MEASUREMENT ESTOUAL. しょうちり コー \circ 1 泰尔尔尔尔森 property property **拉尔尔尔尔尔** **** 0.036 DAILY GRAB PERMIT REQUIREMENT PELDEUT GROSS VALUE 44444 DAILY MX MG/L FIVE/COMP24 XX 0.0 ASRCURY, TOTAL **泰尔尔尔泰尔** 海岸 医电路 非常数数数数 **** (28) SAMPLE MEASUREMENT MONTH (45 HG) 71.)69 B 0 1 在京众本京众 **表型建筑设施 泰拉尔尔 冷水水水水水 非常农农农农**农 0.0011 THICE/COMP24 PERMIT REQUIREMENT YITOR TO DISINFECT *** 30DA AVC OG/L MORTH OLIFOPM, PFCAL 食なな食なな **"你你你你你你** なななななな SAMPLE (13)DAILY GRAD 119 MEASUREMENT 651LRAL 74355 1 0 3 水水水水水水 **常常常常常常 对称多次** PERMIT **** 200 400 # DAILY GRAB REQUIREMENT FRELUENT GROSS VALUE 化物流水 BODA AV 7DA AV LOCAL OD, CARBONACTORS 数数数数数数 (26) (13)SAMPLE DIDAILY Comp24 586 660 2 MEASUREMENT 5 DAY, 20C 11,E2 P 4 7 11100 17800 政政政政政政 25 40 DIATLY COMP24 PERMIT REQUIREMENT PRIOR TO DISTREECT JODA AV 7DA AV LBS/DY 30DA AV 70A AV MSZL DO, CARS-5 PAY, 20 **淡淡淡淡淡淡** 数据数据数据 存存存存存款 **拉拉拉拉拉拉拉** (23) SAMPLE O Daily CALCIO DIG C. PLACENT REMAI aparte aparte **安徽宗宗教** 85 DAILY CALCID 水水中中中水 欢欢欢欢欢欢 ₽P 17-PERMIT REQUIREMENT RIGH TO DISTAFFET MONTH AV NAME/TITLE PRINCIPAL EXECUTIVE OFFICER I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED TELEPHONE DATE AND AM FAMILIAN WITH THE INFORMATION SUBMITTED HEREIN AND BASED ROHEL AMUNDSON UTILITY PLANT OPERATIONS ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION 15 TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIG 616 1337-8157 10 NIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING oΖ THE POSSIBILITY OF FINE AND IMPRISONMENT SEE TH USC \$ 1001 AND MANAGER SIGNATURE OF PRINCIPAL EXECUTIVE 33 U.S.C. \$ 1319. (Penaltics under these statutes may include fines up to \$10000 and or maximum imprisonment of between 6 months and 5 years). AREA TYPED OR PRINTED OFFICER OR AUTHORIZED AGENT NUMBER DAY COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here) TOTAL LEAD, SILVER, ZINC, NAPHTHALENE, 1,2-DICHLOROETHANE= REPORT ON A QUARTEPLY BASIS=MARCH, JUNE, SEPT . DEC. OF EACH YEAR. XX LESS THAN DETECTION

NATIONAL POLLUTAN

DISCHARG.

CHARGE ELIMINATION SYSTEM (NPDES)

INITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (Include

Facility Name/Locatio 'fferent)

MICHIGAN DEPARTMENT OF NATUR DISCHARGE MONITORING DATA MONITORING

RESOURCES ŀRТ

NAME CITY OF KALAMAZOO

FACILITY: KALAMAZOO WATER RECLAMATION PLANT

LOCATION KALAMAZOO

TELEPHONE (616) 337 - 8157

ADDRESS. 1415 N HARRISON ST

KALAMAZOO, MI 49007

MI 0023299 PERMIT NUMBER 001A

DISCHARGE NUMBER

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT, SEE 18 U S.C. § 1001 AND 33 U S C § 1319. (Pensituse under these statutes may include fines

up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.) MONITORING PERIOD Month-Year DAY Month-Year DAY SIGNATURE OF AUTHORIZED EXECUTIVE 31 Jan-93 1 TO Jan-93 OFFICER OR AUTHORIZED AGENT

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	PHOSPHORUS	PHOSPHORUS	NITROGEN	NITROGEN	BIPHENYLS						
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24	0 24	62									
25	0.37	100									
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27	0 31	87									
28	0 38	104									
29	0.42	116									
30	0 41	107									
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AVG		120			<0.7					 · · · · · · · · · · · · · · · · · · ·	
MAX						***				 	_
MIN										 	

INSPECTIONMEETINGPHONE COI	NVERSATIONOBSERVATION :
Name of Facility:	Date:
Address:	Time:
Contact:	
Phone :	
Topic:	
Details: Aled data for	flo-
Jan 1992 end point PCB's	
Feb 1992 n n " =+ 1	
- 10 1997 n n = 7).	2004
1 Nosuit 3 / .	
1997 aug 23 results/ lake try	-
1992 Nov report on Oct flows I	results No Flow
Co. 32 report	
Further Action Required:	
File: General Correspondence	
Inspection Lab Data	Carata
Self-Monitoring Other	Signature:
New Industrial User Needs Attention	

KAR Laboratories, Inc.

ANALYTICAL REPORT

To: Kalamazoo Water Reclamation Plant

1415 N. Harrison

Kalamazoo, MI 49007

Attn: Mr. Ken Leanin

Project No.: 943340 Client No.: 1046

Project Date: 11/03/94
Date Promised: 11/17/94
Date Reported: 11/17/94

PO#: 071565

Project Desc.: Analysis of six samples (KWRP C-of-C #1554 & 1557).

Sample No.:943340-01 Type:aqueous Rec'd:11/03/94 By:GT of KWRP

Sampled: 11/03/94 ID: "Mun. Primary Inf., PIN 30794"

Mercury, total < 0.0005 mg/LPCB Aroclor 1016 <0.1 ug/L PCB Aroclor 1221 <0.1 ug/L PCB Aroclor 1232 <0.1 ug/L PCB Aroclor 1242 0.2 ug/L <0.1 ug/L PCB Aroclor 1248 PCB Aroclor 1254 <0.1 ug/L PCB Aroclor 1260 <0.1 ug/L PCB Aroclors, total 0.2 ug/L

Sample No.:943340-02 Type:aqueous Rec'd:11/03/94 Sampled:11/03/94 By:GT of KWRP

ID: "Industrial Inf., II 30794"

Mercury, total < 0.0005 mg/LPCB Aroclor 1016 <0.1 ug/L PCB Aroclor 1221 <0.1 ug/LPCB Aroclor 1232 <0.1 ug/L PCB Aroclor 1242 <0.1 ug/L PCB Aroclor 1248 <0.1 ug/L PCB Aroclor 1254 <0.1 ug/LPCB Aroclor 1260 <0.1 ug/LPCB Aroclors, total NA

To: Kalamazoo Water Reclamation Plant Project No: 943370

Re: Analysis of six samples (KWRP C-of-C #1559 & 1560).

Sample ID: "Mun. Primary Inf., PIN 31194"

Sample Type: aqueous
Date/Time Sampled: 11/07/94
Sampled By: GT of KWRP
Date Received: 11/07/94
Lab Sample No.: 943370-01

Parameter	Results	Units	Comments
Mercury, total	<0.0005	mg/L	
PCB Aroclor 1016	<0.1	ug/L	
PCB Aroclor 1221	<0.1	ug/L	
PCB Aroclor 1232	<0.1	ug/L	
PCB Aroclor 1242	0.3	ug/L	
PCB Aroclor 1248	<0.1	ug/L	
PCB Aroclor 1254	<0.1	ug/L	
PCB Aroclor 1260	<0.1	ug/L	
PCB Aroclors, total	0.3	ug/L	

Sample ID: "Industrial Inf., II 31194"

Sample Type: aqueous
Date/Time Sampled: 11/07/94
Sampled By: GT of KWRP
Date Received: 11/07/94
Lab Sample No.: 943370-02

Parameter	Results	Units	Comments
Mercury, total	<0.0005	mg/L	
PCB Aroclor 1016	<0.1	ug/L	
PCB Aroclor 1221	<0.1	ug/L	
PCB Aroclor 1232	<0.1	ug/L	
PCB Aroclor 1242	<0.1	ug/L	
PCB Aroclor 1248	<0.1	ug/L	
PCB Aroclor 1254	<0.1	ug/L	·
PCB Aroclor 1260	<0.1	ug/L	
PCB Aroclors, total	NA		

Sample ID: "Tertiary Eff., TE 31194"

Results Units

Sample Type: aqueous
Date/Time Sampled: 11/07/94
Sampled By: GT of KWRP
Date Received: 11/07/94
Lab Sample No.: 943370-03

Parameter

Mercury, total	<0.0005	mg/L	
PCB Aroclor 1016	<0.1	ug/L	

Comments

To: Kalamazoo Water Reclamation Plant Project No: 943370

Re: Analysis of six samples (KWRP C-of-C #1559 & 1560).

PCB Aroclor 1221	<0.1	ug/L
PCB Aroclor 1232	<0.1	ug/L
PCB Aroclor 1242	<0.1	ug/L
PCB Aroclor 1248	<0.1	ug/L
PCB Aroclor 1254	<0.1	ug/L
PCB Aroclor 1260	<0.1	ug/L
PCB Aroclors, total	NA	

Sample ID: "DSE Press Cake, DSE 30894"
Sample Type: solid

Sample Type: solid
Date/Time Sampled: 11/04/94
Sampled By: GT of KWRP
Date Received: 11/07/94
Lab Sample No.: 943370-04

Parameter	Results	Units	Comments
Mercury, total, low level	0.29	mg/kg	
PCB Aroclor 1016	<330	ug/kg	
PCB Aroclor 1221	<330	ug/kg	
PCB Aroclor 1232	<330	ug/kg	
PCB Aroclor 1242	<330	ug/kg	
PCB Aroclor 1248	<330	ug/kg	
PCB Aroclor 1254	<330	ug/kg	
PCB Aroclor 1260	<330	ug/kg	
PCB Aroclors, total	NA		

Sample ID: "Belt Press Cake, BPC 30894"

Sample Type: solid
Date/Time Sampled: 11/04/94
Sampled By: GT of KWRP
Date Received: 11/07/94
Lab Sample No.: 943370-05

Parameter	Results	Units	Comments
Mercury, total, low level	<0.05	mg/kg	
PCB Aroclor 1016	<330	ug/kg	
PCB Aroclor 1221	<330	ug/kg	
PCB Aroctor 1232	<330	ug/kg	
PCB Aroclor 1242	570	ug/kg	
PCB Aroclor 1248	<330	ug/kg	
PCB Aroclor 1254	<330	ug/kg	
PCB Aroclor 1260	<330	ug/kg	
PCB Aroclors, total	570	ug/kg	

11/18/94

ANALYTICAL RESULTS

Page 3

To: Kalamazoo Water Reclamation Plant

Project No: 943370

Re: Analysis of six samples (KWRP C-of-C #1559 & 1560).

Sample ID: "Incinerator Ash, INA 30894"

Sample Type: solid
Date/Time Sampled: 11/04/94
Sampled By: GT of KWRP
Date Received: 11/07/94
Lab Sample No.: 943370-06

Parameter	Results	Units	Comments
Mercury, total, low level	<0.05	mg/kg	
PCB Aroclor 1016	<330	ug/kg	
PCB Arocior 1221	<330	ug/kg	
PCB Aroclor 1232	<330	ug/kg	
PCB Aroclor 1242	<330	ug/kg	
PCB Aroclor 1248	<330	ug/kg	
PCB Aroclor 1254	<330	ug/kg	
PCB Aroclor 1260	<330	ug/kg	
PCB Aroclors, total	NA		

Unless otherwise noted, test results represent the sample(s) as they were received.



Analytical Laboratory Report City of Kalamazoo FECL #: 982-92-E1-3 et al December 24, 1992 Page 3 of 3

FECL #: Tag:	982-92-E1 1 TE 33992	982-92-E2 2 PI 33992	982-92-E3 3 II 33992
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/1	<0.0005 mg/l
Organic - Method 8080			
PCB	< 0.0001 mg/l	<0.0001 mg/l	<0.025 mg/l**
FECL #: Tag:	983-92-E1 4 BPC 33892	983-92-E2 5 DSE 33892	983-92-E3 6 INA 33892
iag.	4 DFC 33072	3 002 33072	0 IMA 33072
Metals - Method 245.1			
Mercury	0.014 mg/kg*	0.112 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	30.0 %	56.4 %	99.9 %
Organic - Method 8080			
PCB	<9.0 mg/kg**	<0.33 mg/kg*	<0.33 mg/kg*

Violetta F. Murshak Laboratory Manager

V. I. Murshohinn

^{*:} Analyzed on a dry weight basis.

**: Higher Detection Limit due to matrix interference.

Analytical Laboratory Report City of Kalamazoo FECL #: 960-92-E1-3 et al December 22, 1992 Page 3 of 3

FECL #: Tag:	960-92-E1 1 TE 33792	960-92-E2 2 II 33792	960-92-E3 3 PI 33792
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0.0005 mg/l
Organic - Method 8080			
PCB	<0.0001 mg/l	<0.0001 mg/l	<0.0001 mg/l
FECL #: Tag:	961-92-E1 4 BPC 33692	961-92-E2 5 DSE 33692	961-92-E3
ray.	4 DEC 22012	5 036 33652	6 IM 33692
Metals - Method 245.1			
Mercury	0.011 mg/kg*	0.173 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	40.2 %	57.0 %	100 %
Organic - Method 8080			
PCB	<0.49 mg/kg**	<0.33 mg/kg*	<0.33 mg/kg*

Violetta F. Murshak Laboratory Manager

^{*:} Analyzed on a dry weight basis.

**: Higher Detection Limit due to matrix interference.



City of Kalamazoo

FECL #: 773-92-E1-3 et al

November 24, 1992

Page 3 of 3

FECL #: Tag:	773-92-E1 1 TE 31092	773-92-E2 2 II 30992	773-92-E3 3 PI 31092
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0.0005 mg/l
Organic - Method 8080			
PCB	<0.0001 mg/l	<0.0001 mg/l	<0.001mg/l**
FECL #: Tag:	774-92-E1 4 BPC 30892	774-92-E2 5 DSE 30892	774-92-E3 6 IA 30892
6	1 213 00002	0 000 00002	C 1.1 50052
Metals - Method 245.1			
Mercury	0.057 mg/kg*	0.226 mg/kg*	<0.020mg/kg*
Solids - Method 160.3			
Total Solids	24.4 %	57.2 %	100 %
Organic - Method 8080			
PCB	<0.48 mg/kg**	<0.33 mg/kg*	<0.48mg/kg**

^{*:} Analyzed on a dry weight basis.

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Violetta F. Murshak Laboratory Manager

V.F. Marshokpa

^{**:} Higher Detection Limit due to matrix interference.



City of Kalamazoo FECL #: 823-92-E1-3 et al

November 24, 1992

Page 3 of 3

FECL #: Tag:	823-92-E1 1 TE 31492	823-92-E2 2 PI 31492	823-92-E3 3 II 31492
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0.0005 mg/l
Organic - Method 8080			
PCB	<0.0001 mg/l	<0.0001 mg/l	<0.0001 mg/l
FECL #: Tag:	824-92-E1 4 BPC 31292	824-92-E2 5 DSE 31292	824-92-E3 6 INA 31292
145		0 000 01202	O IIM OILOL
Metals - Method 245.1			
Mercury	0.075 mg/kg*	0.283 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	19.4 %	56.8 %	99.9 %
Organic - Method 8080			
PCB	<0.50 mg/kg**	<0.33 mg/kg*	<0.33 mg/kg*

^{*:} Analyzed on a dry weight basis.

Violetta F. Murshak Laboratory Manager

^{**:} Higher Detection Limit due to matrix interference.

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2/12	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	205 for each date
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9/13	7.07	LO'S for each date

City of Kalamazoo

FECL #: 10287-92-E1-3 et al

October 8, 1992 Page 3 of 3

FECL #: Tag:	1 Tertiary	10287-92-E2 2 Industrial Inf. II 25892	3 Primary
Metals	EII. 1E 25052	1111. 11 23092	III. F1 23032
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0.0005 mg/l
Organic .			
PCB	<0.0001 mg/l	<0.0001 mg/l	<0.0001 mg/l
FECL #: Tag:	4 DSE Cake	10288-92-E2 6 Incinerator Ash IA 25892	
Metals	DSE 23092	ASA TA 20052	
Mercury	0.236 mg/kg*	<0.020 mg/kg*	
Solids			
Total Solids	55.8 %	99.8 %	
Organic			
PCB	<0.33 mg/kg*	<0.33 mg/kg*	

^{*:} Analyzed on a dry weight basis.

Violetta F. Murshak Laboratory Manager

Analytical Laboratory Report City of Kalamazoo FECL #: AA00117 thru AA00122 February 3, 1993 Page 3 of 3

FECL #: Tag:	AA00117 1 TE 00893	AA00118 2 II 00893	Aa00119 3 PI 00893
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0 0005 mg/l
Organic - Method 608			
PCB	0.0013 mg/l	<0.001 mg/l**	<0.0001 mg/l
FECL #: Tag.	AA00120 4 BPC 00793	AA00121 5 DSE 00793	AA00122 6 IA 00793
	1 210 00733	3 201 00773	0 1A 00775
Metals - Method 245.1			
Mercury	0.047 mg/kg*	0.211 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	27.5 %	55.9 %	100 ಕ
Organic - Method 8080			
PCB	<0.3 mg/kg*	<0.3 mg/kg*	<0.3 mg/kg*

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317 326-0'67 relled 815, E610, 202 Resum douple - 0'130

Violetta F. Murshak

Laboratory Manager

^{*:} Analyzed on a dry weight basis.

**: Higher Detection Limit due to matrix interference.



Analytical Laboratory Report City of Kalamazoo FECL #: AA00218 thru AA00223 February 2, 1993 Page 3 of 3

FECL #: Tag:	AA00218 1 TE 01393	AA00219 2 II 01393	AA00220 3 PI 01393
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	< 0.0005 mg/l
Organic - Method 608			
PCB	<0.0001 mg/l	<0.01 mg/l**	<0.0001 mg/l
FECL #: Tag:	AA00221 4 BPC 01293	AA00222 5 DSE 01293	AA00223 6 INA 01293
Metals - Method 245.1			
Mercury	0.048 mg/kg*	0.948 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	29.3 %	59.4 %	99.8 %
Organic - Method 8080			
PCB	<0.3 mg/kg*	<0.3 mg/kg*	<0.3 mg/kg*

V. F. Murshah (KINN) Violetta F. Murshak Laboratory Manager

^{*:} Analyzed on a dry weight basis.

**: Higher Detection Limit due to matrix interference.



City of Kalamazoo

FECL #: 449-92-E1-3 et al

October 26, 1992

. Page 3 of 3

	449-92-E1 4 Belt Press Cake BPC 27992		449-92-E3 6 Incinerator Ash IA 27992
Metals - Method 245.1			
Mercury	0.049 mg/kg*	0.190 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	28.5 %	59.3 %	99.9 %
Organic - Method 8080			
PCB	<0.33 mg/kg*	<0.33 mg/kg*	<0.33 mg/kg*
FECL #: Tag:		450—92—R2 2 Industrial Inf. II 27992	
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0.0005 mg/l
Organic - Method 8080			
PCB	<0.0001 mg/l	<0.0001 mg/l	<0.0001 mg/l

*: Analyzed on a dry weight basis.

Violetta F. Murshak Laboratory Manager

Analytical Laboratory Report City of Kalamazoo FECL #: 504-92-E1-3 et al October 26, 1992 Page 3 of 3

FECL #: Tag:	1 Tertiary	504-92-E2 2 Industrial Inf. II 28292	
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0.0005 mg/l
Organic - Method 8080			
PCB	<0.0001 mg/l	<0.0010 mg/l**	<0.0001 mg/l
		505-92-E2 5 Incinerator Ash IA 28292	
Metals - Method 245.1			
Mercury	0.056 mg/kg*	<0.020 mg/kg*	0.302 mg/kg*
Solids - Method 160.3			
Total Solids	28.5 %	99.9 %	39.0 %
Organic - Method 8080			
PCB	<0.33 mg/kg*	<0.33 mg/kg*	<0.33 mg/kg*

*: Analyzed on a dry weight basis.

**: Higher Detection Limit due to matrix interference.

Violetta F. Murshak Laboratory Manager



City of Kalamazoo

FECL #: 823-92-E1-3 et al

November 24, 1992

Page 3 of 3

FECL #: Tag:	823-92-E1 1 TE 31492	823-92-E2 2 PI 31492	823-92-E3 3 II 31492
Metals - Method 245.1			
Mercury	<0.0005 mg/1	<0.0005 mg/l	<0.0005 mg/l
Organic - Method 8080			
PCB	<0.0001 mg/l	< 0.0001 mg/l	<0.0001 mg/1
FECL #:	824-92-E1 4 BPC 31292	824-92-E2 5 DSE 31292	82 4-92-E3 6 INA 31292
Tag:	4 DEC 31252	3 DOE 31232	0 INA 31232
Metals - Method 245.1			
Mercury	0.075 mg/kg*	0.283 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	19.4 %	56.8 %	99.9 %
Organic - Method 8080			
PCB	<0.50 mg/kg**	<0.33 mg/kg*	<0.33 mg/kg*

^{*:} Analyzed on a dry weight basis.

Violetta F. Murshak Laboratory Manager

V.F. Mughok/RH

^{**:} Higher Detection Limit due to matrix interference.

Analytical Laboratory Report City of Kalamazoo FECL #: 982-92-E1-3 et al December 24, 1992 Page 3 of 3

FECL #: Tag:	982-92-E1 1 TE 33992	982-92-E2 2 PI 33992	982-92-E3 3 II 33992
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0.0005 mg/l
Organic - Method 8080			
PCB	<0.0001 mg/l	<0.0001 mg/l	<0.025 mg/l**
FECL #: Tag:	983-92-E1 4 BPC 33892	983-92-E2 5 DSE 33892	983-92-E3 6 INA 33892
•			
Metals - Method 245.1			
Mercury	0.014 mg/kg*	0.112 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	30.0 %	56.4 %	99.9 %
Organic - Method 8080			
PCB	<9.0 mg/kg**	<0.33 mg/kg*	<0.33 mg/kg*

Violetta F. Murshak Laboratory Manager

V. L. Murshohim

^{*:} Analyzed on a dry weight basis.

**: Higher Detection Limit due to matrix interference.

Analytical Laboratory Report City of Kalamazoo FECL #: AA00218 thru AA00223 February 2, 1993 Page 3 of 3

PECL #: Tag:	AA00218 1 TE 01393	AA00219 2 II 01393	AA00220 3 PI 01393
Metals - Method 245.1			
Mercury	<0.0005 mg/l	<0.0005 mg/l	<0.0005 mg/l
Organic - Method 608			
PCB	<0.0001 mg/l	<0.01 mg/l**	<0.0001 mg/l
FECL #: Tag:	AA00221 4 BPC 01293	AA00222 5 DSE 01293	AA00223 6 INA 01293
Metals - Method 245.1			
Mercury	0.048 mg/kg*	0.948 mg/kg*	<0.020 mg/kg*
Solids - Method 160.3			
Total Solids	29.3 %	59.4 %	99.8 %
Organic - Method 8080			
PCB	<0.3 mg/kg*	<0.3 mg/kg*	<0.3 mg/kg*

V. F. Murshah (ENN) Violetta F. Murshak Laboratory Manager

^{*:} Analyzed on a dry weight basis.

**: Higher Detection Limit due to matrix interference.



Analytical Laboratory Report City of Kalamazoo September 30, 1993

FECL #: AA07035 TAG: 7 Belt Press Cake BPC25293

<u>Analysis</u>	Results	Units	MDL	Method
INORGANICS Total Solids	62.2	%	1	160.3
METALS Mercury	Not detected	mg/kg	0.05	7471
ORGANICS PCB	Not detected	mg/kg	0.3	8080

FECL #: AA07036 TAG: 8 Incinerator Ash IA25293

Analysis	Results	Units	MDL	-Method
INORGANICS Total Solids	100.0	%	1	160.3
METALS Mercury	Not detected	mg/kg	0.05	7471
ORGANICS PCB	Not detected	mg/kg	0.3	8080

FECL #: AA07037 TAG: 9 DSE Press Cake DSE25293

Analysis	Results	Units	MDL	Method
INORGANICS Total Solids	61.4	%	1	160.3
METALS Mercury	0.10	mg/kg	0.05	7471
ORGANICS PCB	Not detected	mg/kg	0.3	8080



Analytical Laboratory Report City of Kalamazoo September 29, 1993

FECL #: AA06978 TAG: 1-BPC25093 *

Analysis	Results	Units	MDL	Method
INORGANICS Total Solids	30.6	%	1	160.3
METALS Mercury	Not detected	mg/kg	0.05	7471
ORGANICS PCB	Not detected	mg/kg	0.3	8080

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FECL #: AA06979 TAG: 2 IA25093

Analysis	Results	Units	MDL	Method
INORGANICS Total Solids	99.8	%	1 -	160.3
METALS Mercury	Not detected	mg/kg	0.05	7471
ORGANICS PCB	Not detected	mg/kg	0.3	8080

FECL #: AA06980 TAG: 3 DSE25093

ţ

Analysis	Results	Units	MDL	Method
INORGANICS Total Solids	56.6	%	1	160.3
METALS Mercury	0.18	mg/kg	0.05	7471
ORGANICS PCB	Not detected	mg/kg	0.3	8080

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Water Rouse

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THE CITY OF



DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamazoo Michigan 49007-2565 (616) 385-8157

October 1, 1990

Mr. Frederick Morley Michigan Department of Natural Resources District 12 Headquarters P.O. Box 355 Plainwell, Michigan 49080

Dear Mr. Morley:

In accordance with NPDES Permit No. M10023299, Part I, Section A.3., I am submitting a Program Update for the PCB and Mercury Minimization Program. This Update is to address three (3) requirements outlined in the referenced section: (1) the monitoring results for the previous year, (2) an update list and assessments of inputs of potential PCB and mercury sources, and (3) a summary of actions taken to eliminate PCB and mercury discharges. The goal of the program is to reduce all sources of PCB and mercury discharged into the sewer system to less than the level of detection. Submittal of this update was required by October 1, 1990.

In our PCB and Mercury Minimization Program proposal submitted to you on June 1, 1990, we indicated our intent to initiate this study in the first full quarter following receipt of approval from your Department. Notification of approval of our proposal was given in a July 6, 1990 letter from Gregory Danneffel, of the Plainwell MDNR office. As such, the Minimization Program begins officially today, October 1, 1990.

SUBMITTAL ITEM (1) - Monitoring of influent and sludge for PCB and mercury:

Total PCB and total mercury analysis will be performed twice per month during the twelve month reporting period on grab samples taken from industrial primary influent, municipal primary influent, tertiary effluent, primary filter cake, incinerator ash, and DSE filter cake. Limited test work performed during 1990 is presented in the table on Page 3 of this letter. The first full round of sampling was initiated on September 28, 1990.

SUBMITTAL ITEM (2) - Update list and assessments of inputs of potential PCB and mercury sources:

On-going monitoring of all Significant Industrial Users (SIUs) for total mercury and total PCBs was conducted by the City of Kalamazoo during 1990. This monitoring has shown nondetectable levels of total PCBs in all samples collected. The total mercury analyses are being utilized by the Industrial Pretreatment Program (IPP) inspection staff to help determine what potential sources of total mercury will need to be eliminated.

Mr. Frederick Morley October 1, 1990 Page 2 of 3

SUBMITTAL ITEM (3) - Summary of actions taken to eliminate PCB and mercury discharges:

Currently, changes are being drafted to the City of Kalamazoo Code of Ordinances to prohibit the discharge of total PCBs and mercury to the sanitary sewer. When a final draft is completed, it will be submitted to the Michigan Department of Natural Resources (MDNR) for approval as a substantial modification to the IPP. Newly revised Administrative Orders (AOs) will include compliance schedules for those SIUs that need to eliminate mercury discharges. In addition, Toxic Organic Management Plans (TOMPs) have been requested of all categorical users in the metal finishing / aluminum forming / electroplating category. The TOMPs require certification of no discharge and/or monitoring of various organic compounds, including total PCBs. Sewer interceptor studies during the year have measured trace metals concentrations, including total mercury.

An additional action taken during the last year was the terminating of an industrial user's discharge based on, among other things, the potential to discharge total PCBs.

Please feel free to contact me if you have questions or comments.

Sincerely,

Daniel J. Starkey, P.E. General Superintendent

Police / Staller

DS:rwa

enc

c Bruce Minsley, Kalamazoo DPU Rohel Amundson, KWRP Bruce Merchant, KWRP File

Total Mercury Analyses					
Sample Point (Kalamazoo Water Reclamation Plant)	Date Sampled	Value, μg/L			
Municipal Primary Influent	7/03/90 7/10/90	<0.5 <0.5 1.2			
	7/17/90 7/24/90 7/31/90 8/07/90	0.6 <0.5 1.2			
	8/14/90 8/21/90 8/28/90	0.6 0.5 0.6			
Industrial Primary Influent	7/03/90 7/10/90 7/17/90 7/24/90	<0.5 <0.5 <0.5 <0.5			
	7/31/90 8/07/90 8/14/90 8/21/90	<0.5 <0.5 <0.5 <0.5 <0.5			
Tertiary Effluent	8/28/90 7/03/90 7/10/90	<0.5 <0.5 <0.5			
	7/17/90 7/24/90 7/31/90 8/07/90	<0.5 <0.5 <0.5 <0.5			
	8/14/90 8/21/90 8/28/90	<0.5 <0.5 <0.5			
Total PCB Analyses					
Sample Point (Kalamazoo Water Reclamation Plant)	Date Sampled	Value, μg/L			
Tertiary Effluent	7/05/90 7/10/90 8/03/90 8/07/90	<0.1 <0.1 <0.1 <0.1			

STATE OF MICHIGAN



NATURAL RESOURCES COMMISSION
THOMAS J ANDERSON

THOMAS J ANDERSON MARLENE J FLUHARTY GORDON E GUYER KERRY KAMMER ELLWOOD A MATTSON O STEWART MYERS RAYMOND POUPORE

JAMES J BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

DAVID F HALES Director

District 12 Headquarters P.O. Box 355, Plainwell, Michigan 49080

July 6, 1930

Mr Daniel J Starkey Kalamasco Water Reclamation Plant 1415 North Harrison Valuesco, Michigan 49007-2565

Dear Mr. Starkey:

SUBJECT: FCB and Mercury Minimization Frogram

We have completed our review of the subject program submitted with your letter of June 1, 1990. The program fulfills the requirements of Part 1. Section A.2 of NPDES Permit No. MICCERSSY and is hereby approved.

As a remainder, a "Program Update" is to be submitted by the City in October 1 of each year. Please refer to the previously mentioned section of your NPDES permit for an explanation of the information required in these updates.

Feel free to contact me if you have any questions.

Sincerely.

GWegSry/A. Danneffet, F.E.

Surface Water Quality Division

616-685-9886

or: Eylvia Heaton, GLEAS, SWQD Fred Cowles, Permits, SWQD



DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N Harrison Kalamazoo, Michigan 49007-2565 (616) 385-8157

June 1, 1990

Mr. Frederick Morley Michigan Department of Natural Resources District 12 Headquarters P.O. Box 355 Plainwell, Michigan 49080

Dear Mr. Morley:

In accordance with NPDES Permit No. MI0023299, Part I, Section A.3., I am submitting a PCB and Mercury Minimization Program. This submittal addresses the five (5) requirements outlined in the referenced section. The goal of the program is to reduce all sources of PCB and mercury discharged into the sewer system to less than the level of detection. Submittal of this program was required by June 1, 1990.

We propose to initiate this study in the first full quarter following receipt of approval from your Department. Please feel free to contact me if you have questions or comments.

Sincerely,

Daniel J. Starkey, P.E. General Superintenders

DS:rwa

enc

c Bruce Minsley, Kalamazoo DPU Rohel Amundson, KWRP Bruce Merchant, KWRP File The City of Kalamazoo NPDES Permit No. MI0023299, Part I, Section A.3. requires the submittal of an approvable PCB and Mercury Minimization Program. This submittal addresses the five (5) requirements outlined in Part I.A.3.

Identification of potential PCB and mercury sources:

- A.) The likely sources of PCB compounds include paper recycling activities, PCB-containing electrical devices, work areas contaminated by past PCB-oil spills, groundwater reclamation projects, and potential illegal wastewater discharges. Considering that PCB usage is no longer allowed, and that Federal law requires the replacement or retrofilling of PCB-type electrical transformers, this should be a diminishing problem. Site inspections, question-naires, public information, and ongoing monitoring will be used to discover and quantify sources of PCB contamination.
- B.) There are potentially a number of Minor Industrial Users (IUs) that could be discharging mercury to the sanitary sewer: dentist's and doctor's offices, photo and x-ray developers, and various types of analytical laboratories (industrial, environmental, clinical, research). Attachment A lists the IUs (Significant and Minor) that have been found to discharge measurable levels of total mercury to the sanitary sewer.

Program for assessing the amounts of PCB and mercury in all potential sources.

- A.) PCBs (Total PCB^{1,2})
 - 1) In a review of Non-domestic User Surveys no industries were found to routinely use or store raw or finished materials containing PCB compounds.
 - 2) Assessment of potential PCB discharge in spilled transformer oils: see Item 4.D. below.
 - 3) Based upon results of activities in Item 1.A. above, send questionnaires, conduct site inspections as required to allow estimation of quantities of mercury—containing materials that are in storage and/or use.
- B.) Mercury/Mercury Compounds (Total Mercury³)
 - 1) Review Non-domestic User Surveys
 - 2) Ongoing Industrial Monitoring Program
 - a) Attachment A lists facilities that have been found to have intermittent discharges of measurable levels of mercury to the sanitary sewer since 1986.
 - 3.) Based upon results of activities in Item 1.B. above, send questionnaires, conduct site inspections as required to allow estimation of quantities of mercury—containing materials that are in storage and/or use.

3.) Program for monitoring of influent and sludge for PCB and mercury.

- A.) Influent monitoring program: Twice per month analysis of Industrial and Municipal Primary Influents and Tertiary Effluent for Total PCB and Total Mercury.
- B.) Sludge monitoring program:
 - 1) First year: Twice per month analysis of Primary Filter Cake, Incinerator Ash, and DSE Filter Cake for Total PCB and Total Mercury.
 - 2) Following years: Once per quarter analysis (see: 3.B.1 above) if no PCB or mercury detected, otherwise, continue the twice per month analysis for the parameter detected.

4.) Control strategy to achieve the elimination, where practicable, of all detectable PCB and mercury discharges to the sewer system by June 1, 1992.

- A.) Banthe discharge, where practicable, of PCB compounds, mercury and its compounds into the POTW. Test results that exceed the Method Detection Limits (MDL) for PCB (0.2 µg/l) and mercury (0.5 µg/l) would trigger appropriate control measures (see Item 5.). This is a substantial modification of the approved Industrial Pretreatment Program (IPP), requiring the following actions:
 - 1) Develop Sewer Use Regulation prohibiting, where practicable, discharge of PCBs and mercury to the sanitary sewer.
 - Public noticing of these changes to the IPP.
 - 3) Modification of Administrative Orders to Significant IUs to reflect the new Sewer Use Regulation.
 - 4) Initiation of compliance schedules (completion date to be prior to June 1, 1992) for IUs currently discharging mercury to cease all release of mercury to the sanitary sewer, where practicable.
- B.) Notify all Minor and Non-significant IUs of the PCB and mercury discharge requirements.
 - 1) Send questionnaires to Minor IUs seeking information regarding the uses, handling procedures, storage and containment, and disposal practices of these materials.
 - 2) Conduct site inspections where PCB or mercury are reported to be in use or stored.
- C.) Provide public information regarding the prohibition of PCB and mercury discharge to the sanitary sewers per the Sewer Use Regulation. Refer domestic users to the Kalamazoo County Health Department for proper disposal of these and other household hazardous materials.
- D.) Control of contaminated electrical transformers:
 - 1) Request TSCA information from the Michigan Department of Natural Resources (MDNR) regarding existence of PCB and PCB-contaminated electrical transformers in use within the wastewater service area.
 - 2) Inspect wastewater discharger sites (that reported the existence of these electrical transformers) to evaluate transformer oil spill-control provisions.
 - 3) Issue Sewer Use Regulation or modify Administrative Orders as appropriate.

Appropriate control measures to be implemented when detectable discharges of PCB and mercury are discovered.

- A.) Conduct comprehensive field investigation to trace source of illegal discharge.
- B.) Follow Enforcement Response Guide procedures to bring discharger into compliance.

¹ Total PCBs: Defined as the sum of Aroclors 1242, 1254, and 1260

² Analytical Method for PCBs: EPA Method No. 608

³ Analytical Method for Mercury: EPA Method No. 245.1

⁴ Method Detection Limit (MDL): Defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

APPENDIX A

A listing of industries that have been reported to have detectable mercury discharges at some time since 1986:

Aluminum Finishing Company American Cyanamid Company Anderson Steamatic Arvan Corporation **Beach Products** Borgess Medical Center Borroughs Lear-Siegler Bronson Hospital Continental Linen **Durametallic Corporation** Fabri-Kal Corporation Fisher Body Hammond Machinery **Haviland Products Humphrey Products** James River Kal-Aero, Incorporated Kalamazoo Creamery Kalamazoo Gazette Kalamazoo Metal Finishers Kalamazoo Strip & Derusting Kepco, Incorporated LSI-Kala Mastercraft Mead-Westab Performance Papers Peterson Spring Company Pneumo Corporation Port City Paints Printing Services, Incorporated Spectrum Colors, Incorporated **Textile Systems** The Upjohn Company **Todd Uniform** Tri-county Hazardous Waste Union Camp Corporation Valley Plastics

Western Michigan University

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MICHIGA" DEPARTMENT OF NATURAL

INTEROFFICE COMMUNICATION

May 2, 1989

8 @ William 1

TO:

Diane Miller Permits Section

Surface Water Quality Division

FROM:

William H. Taft

Great Lakes and Environmental Assessment Section

Surface Water Quality Division

SUBJECT: Battle Creek WWTP

Revised PCB Requirements

MI 0022276

We have reviewed the WQBELs for PCBs at the Battle Creek WWTP. Pursuant to the current permit, Battle Creek has submitted and the department approved on July 5, 1988, a minimization plan for PCBs. The recommendations given below supersede my memo of January 5, 1989 with regard to this issue:

Chemical	Monthly Average	Monitoring Freq.	EPA Analytical Method
PCB	0.00002 ug/l (1)	2 X monthly	608

(1) State-of-the-art analytical techniques for this chemical are not sufficiently sensitive to detect this level in the effluent. This chemical should not be discharged at detectable levels. The reported detection level for the method specified should not exceed 0.2 ug/l unless a higher level is appropriate because of sample matrix interference. In addition, the permittee should minimize the discharge of this chemical to the maximum extent practicable consistent with the programs outlined in Attachment 1.

ATTACHMENT 1

The permittee should continue their PCB minimization program with the goal of reducing and maintaining all potential sources of PCB to the sewer system at nondetectable levels (analytical method and detection limits are the same as specified for the effluent compliance monitoring). The program should, as a minimum, include the following:

- 1. An annual review and semi-annual monitoring of potential PCB sources.
- 2. Quarterly monitoring of influent and sludge for PCB.
- Submittal of an approvable control strategy designed to proceed toward the goal of no detectable PCB discharges into the sewer system.
- 4. If detectable levels of PCB are discovered, appropriate control measures should be implemented, consistent with approved control strategies.
- 5. An annual status report should be sent to the SWQD District Office including:
 - a. All minimization program monitoring results for the previous year.
 - b. A list of potential PCB sources to the sewer system.
 - c. All action taken to determine and eliminate PCB.

cc: W. Creal/Section Files

WT:11s

CITY OF OTSEGO WASTEWATER TREATMENT PLANT LONG TERM COMPLIANCE PLAN FOR PCB LONG TERM WATER QUALITY BASED EFFLUENT LIMITATIONS

Sept. 30, 1986

The Otsego WWTP effluent will be monitored quarterly for PCB using a commercial laboratory for the analysis. This laboratory will use EPA method 608 and will have a detection limit range of 0.1 to 0.2 ug/l. Monitoring will begin in September 1986 and will occur each quarter thereafter.

Nov. 1, 1986

Beginning on this date a comprehensive study of all industrial users as listed in the City of Otsego Industrial Pretreatment Program will commence. The purpose of the study will be to determine the source of entry of PCB into the City of Otsego sanitary sewer. This study will consist of the monitoring and analysis of each industrial user for PCB at the detection limit range of 0.1 to 0.2 ug/l. It will also consist of plant inspections, written correspondence and meetings with appropriate industry representatives. It is anticipated that this study shall be completed by May 1, 1987.

May 1987

Upon completion of the above study all data and information will be evaluated by the Otsego Wastewater Staff. Those industries discharging industrial wastes containing PCB will be listed separately from industrial users not discharging PCBs. Any industry that it's determined has PCB at it's plant location regardless of whether or not it discharges PCB to the sanitary sewer will also be categorized. Those industries that neither discharge or have PCB on their property will be informed of such and will be disregarded in further utilization of this plan.

July 1987

All industries in category I will be informed of the level of PCB detected in their industrial discharge. A meeting with appropriate officials will be arranged and the exact source of PCB will be determined at each industrial location. The feasibility of the replacement and therefore the elimination of all PCB's within each industry will be discussed. The alternative to the immediate elimination of sources would be a gradual reduction of the amount discharged to the sewer system. A schedule to reduce levels by 50% every 6 months until the level is below current detection levels would be appropriate.

As for evaluating reasonable progress toward compliance with the LTWOBEL within the form of this permit and beyond, I would have to say that elimination of all sources of PCB from industrial discharges would be a big step in the right direction. However until the technology or analytical methods are developed that will detect levels such as the water quality based effluent limits it will be near impossible to know when you are in compliance. As progress toward compliance is achieved the possibility exists that one waste stream would be the sole contributor of PCB. In this case it may be mathematically possible to achieve compliance if it is found that this waste stream is at the .1 ug/l level and is a small volume in comparison to total plant flow. A level could then be calculated for plant influent and then this figure could be multplied by the estimated percent removal of PCB by the various wastewater treatment processes. This would then give you a level for plant effluent which may or may not be in compliance with LTWQBEL.

In conclusion I feel that the Best method, at the present time, is a comprehensive source detection and control program that reduces the amounts of PCB that enter the sewer system. Ideally all sources could be eliminated at least Below detectable levels. It is a reasonable assumption that in the near future the detection levels will lower as technology progresses. When this occurs it will then be possible to comply with the long term water quality based effluent limitations.

If you should have any questions or comments on this plan please do not hesitate to call 1-616-694-9194.

Sincerely

Thomas W. Dunn, Superintendent Otsego Wastewater Treatment

LONG-TERM WATER QUALITY BASED EFFLUENT LIMITS COMPLIANCE PLAN

The City of Lansing NPDES Permit No. MIOO23400, Part I, Section A2 Special Conditions: Long-Term Water Quality Based Effluent Limits requires the submittal of a long-term compliance plan to achieve the limits established for PCB and mercury.

The long-term Compliance Plan to meet the LTWQBEL for PCB (1.2 \times 10.5 ug/l) and mercury (0.014 ug/l) is to eliminate the pollutants from the system at the source. This will be accomplished by the following steps:

1. Ban the discharge of PCB, mercury and its compounds into the POTW. This will be accomplished by amending the Industrial Waste and Pretreatment Ordinance to accept no discharge of these materials. Regulatory authority exists for this action in Section 27C-2.1. General Discharge Prohibitions of the Ordinance. Section 27C-2.1.7 provides for prohibition of "any substance which will cause the POTW to violate its NPDES Permit or the receiving water quality standards." The LTWQBEL will not allow any discharge of PCB or mercury.

This step can be completed by July 1, 1988, if the Compliance Plan is approved by March 1, 1988

2. Review all non-domestic users of the system to determine all users of PCB and mercury on their sites. A letter will be sent to all non-domestic users containing a brief questionaire. The information contained on the questionaires will be used to evaluate the uses, handling procedures, storage and containment, and disposal practices of the users. The ban on the discharge of PCB and mercury will be explained to the users. Based on information gathered by the questionaire and field surveys, a compliance plan by the user will be required to eliminate any discharges and protect against spills. A monitoring program will be developed to enforce compliance.

This step will be completed within five years of approval of this Compliance Plan.

3. In addition to the activities of the City, The Federal Government has required in 40 CFR 761, that by October 1, 1990, all electrical equipment using PCB be replaced or retrofilled to become non-PCB transformers. This is required of all owners of this type equipment, including utility companies. The Board of Water and Light is already in the process of changing all of theirs. This will make significant progress to eliminating the possibility of receiving PCB into the POTW.

4. In addition to all non-domestic users, a letter will also go out to all domestic users concerning the discharge of mercury and its compounds. The letter will inform them of problems of dumping such compounds down the drain and refer them to the Ingham County Health Department for proper disposal of this and other household hazardous materials.

This step will be completed within two years of approval of this Compliance Plan.

The above Compliance Plan is intended to achieve compliance with the LTWQBEL for PCB and mercury as contained in the NPDES Permit. We will continue to monitor the plant effluent as required, but no detectable levels of either have been found. Since 1982, no detectable levels of PCB have been found in dewatered sludge. If new approved methods for testing become available that provide a lower detection limit that is currently available, we will pursue it to further indicate our compliance with the LTWQBEL.

FORM 1

POTW PRETREATMENT ANNUAL REPORT

COVER SHEET

NPDES Permit Holde	er or Sewer Authority Name:	City of Kalam Water Reclama	
Report Date: July	23, 1988		
Peri∝l Covered by	This Report: from 7-1-87 to	6-30-88	
Peri∝d Covered by	Previous Peport: from 11-1-	-86 to 6-30-87	
Name of Wastewater	Treatment Plant(s)		NPDES Permit Number
Kalamazoo Wat	ter Reclamation Plant		MI 0023299
Person to contact	concerning information obta	ained in this r	eport:
Name:	Bruce Merchant		
Title:	Industrial Services Supervi	.sor	
Mailing Address:	1415 North Harrison Street		
	Kalamazoo, Michigan 49007-	-2565	
Telephone No:	(616) 385-8157		
this document and immediately response	examined and am familiar d attachments. Based upor onsible for obtaining the submitted information is tru	n my inquiry e information	of those individuals reported herein, I d complete.
		General Superi	l/

- 1. List laboratory conducting analysis. 1. City of Kalamazoo Department of Public Utilities Laboratory; 2. KAR Laboratories, Inc., Kalamazoo, MI; 3. Brighton Analytical, Inc., Highland, MI; 4. SEG Laboratories, Inc., Lansing, MI.
- 2. Describe type analysis [i.e., indicate method (GC, GCMS, AA, HPLC, wet chemistry analysis)].
 - 1. City of Kalamazoo Utilities Laboratory Conventionals (wet chemistry analyses: BOD, TSS, pH, NH3-N, Grease/oil); trace metals (AAS) and trace organics (GC). All U.S. EPA methods used.
 - 2. KAR Laboratories, Inc. Conventionals (grease/oil); trace metals (AAS) and trace organics (GC). All U.S. EPA methods used.
 - 3. Brighton Analytical, Inc. Trace organics (volatile organics and PCBs). U.S. EPA methods 601, 602 and 608 used.
 - 4. SEG Laboratories, Inc. Trace organics (PCBs). U.S. EPA method 608 used.
- 3. Discuss whether existing local limits contained in sewer use ordinance continues to protect against interference, sludge contamination, or pass-through.

Language provided in the City of Kalamazoo Sewer Use Ordinance continues to protect against interference, sludge contamination and pass-through. See Form 5.

Describe significant changes (if any) that occurred in operating the pretreatment program over the past year.

1. Personnel:

- A. A new Industrial Services Supervisor was officially hired within this past year.
- B. Two (2) position upgrades were applied for and approved for two (2) Industrial Waste Technician III's to Industrial Waste Technician III's. These new positions were created to greatly expand the industrial inspection program. (Effective Date: April 1988)
- C. One (1) additional Industrial Waste Technician I and II positions were also added in light of item 1.B above. These positions were added to assist in the overall IPP program implementation in the area of increased industrial monitoring.
- 2. Computer Software: A comprehensive IPP software package was purchased from Jones & Henry Engineers, Incorporated. Implementation and data entry is occurring at a rapid rate at this time. See attachments for examples of information that can be generated.
- 3. Pretreatment Audit: A comprehensive pretreatment program audit was conducted at the Kalamazoo Water Reclamation Plant by U.S. EPA-Region V and MDNR representatives on February 17 and 18, 1988. As of July 25, 1988, the City of Kalamazoo has not been informed of the results of this audit. As a result of discussions at the audit exit interview, the City is making a concerted effort to improve the program in several areas.

4. Industrial User (IU) Audit:

An Industrial User (IU) Audit was requested by U.S. EPA-Region V personnel for Kalamazoo Metal Finishers (KMF), Incorporated. Discharge violations had been noted at KMF and enforcement action, up to and including cessation of discharge, was taken by the City of Kalamazoo against this facility. Because of the various compliance actions taken by the City, the IU in question was in compliance and operating properly at the time of the IU audit. As a result of these actions, better enforcement policy was developed to assist in handling future similar situations.

FORM 2 INDUSTRIAL WASTE SURVEY UPDATE

Del Sig	lition/ etion/ gnificant anges	Name and Address of Industrial User	Industrial Activity	SIC Code	Wastewater Flow (1,000 gpd)	Pollutant of Concern	Comments
1.	Addition	Production Plated Plastics	plastics and metal finishing	3471 3479 3079	500	Cr, Zn & other trace metals	Order to hook-up to City sewer by court.
2.	Addition	Landscape Forms	Manufacturing of outdoor furniture	2500	<1	metals	Operates phosphating line for metal parts.
3.	Signif. Change	Strebor, Inc. (Beechum Home Improvement Products)	Adhesives manufacturing plus a groundwater remediation project	2891	400	conven- tionals, volatile organic compounds, and penta- chloro- phenol	Groundwater remediation project started up with Activated Carbon Pretreatment.
4.	Addition	NICKAL Paper Co.	Recycled paper bond manufacturing	2621	200	conven- tionals, (BOD & TSS) especially	New recycled paperboard manufacturer reopened an old facility.
5.	Addition	Megaloid Chemical Corp.	Chemical formulation	2891 2850	undetermined (approx. 5)	conven- tionals plus volatile organic compounds	Currently still connecting up to the sanitary sewer.
6.	Deletion	Roto-Finish Co., Inc.	Chemical formulation and metal finising equipment manufacturing	3559	<1	Trace metals, organic and "MOCA"	Company went out of business (local facility closed by parent company).

NOTE: Several other industries were "added" to our overall Industrial User list due to greatly increased inspection activity in outlying municipalities served by the City of Kalamazoo Water Reclamation Plant. The changes listed above were considered "significant additions/deletions/changes".

Name of Treatment Plant | Kalamazoo Water Reclamation Plant

	Influent	Effluent	Removal Rate (X)	Sludge (mg/kg)	Permit Sampling Protocol Followed
Sample Date					(Y/N) ⁴
Parameter ³ (mg/1) ⁵					
BOD 5	with MDNI	R – required monthly ope	PCBs, 1,2-DCEA data su rating reports. Addition	bmitted al monitoring	
O11 and Grease	data is att	ached.			
		·			

If more than one treatment plant in POTW system, show this information separately for each plant.

² If POTW is required to sample more than three times, use additional sheets.

In addition to BOD, and Oil and Grease, the parameters should be those identified in the pretreatment section of the POTW's permit (i.e., As, Cd, Cr, Cu, CN, Pb, Hg, Ag, Ni, Zn and organic toxics, etc.).

⁴ If the sampling protocol identified in the POTW's permit was <u>not</u> followed, describe on a separate sheet what frequency and type of sampling was conducted.

SAll vr' reported in mg/l unless otherwise noted.

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* M.A NR 'miliated nitesult

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5.727 4.8 4.8 (2.6)	
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SAMPLE	8-1357	<003
		Tim Pilse

Analytical Results from KWRP Tertiary Effluent Samples-October 1987 (All results in ug/L)

TRACE METALS:

DATE

Parameters	10/04/87	10/11/87	10/20/87	10/29/87	
Cadmium	0.58	0.76	<0.50	2.9	
Lead	<10	<10	<5.0	15	·
Silver	<0.50	<0.50	1.5	6.6	

TRACE ORGANICS - (1,2-DCEA and Total PCBs):

DATE

Parameter	10/2	10/8	10/14	10/20	10/26	
1,2-DCEA	NR	53	42	226	5	
Total PCBs	NS	<0.04	NS	<0.15	NS	

NR - Indicates sample delivered to lab but not run

NS - Indicates samples not collected on these dates

KALAMAZOO WATER RECLAMATION PLANT TERTIARY EFFLUENT RESULTS

TRACE METALS

PARAMETER	9/1/87	9/10/87	9/18/87	9/26/87
Cadmium (ug/L)	<0.50	3.3	<0.50	*2.5
Lead (ug/L)	<5.0	<5.0	<5.0	*8.7
Silver (ug/L)	<0.50	0.67	0.59	*5.8
Amenable CN (ug/L)	<5.00	<5.00	<5.00	<5.84

* - These results were not reported to the MDNR due to the use of incorrect sampling procedures. Sample collection apparatus was not properly cleaned for collection of trace metals samples.

TRACE ORGANICS

DATE

PARAMETER (ug/L)	9/9/87	9/17/87	9/21/87	
1,2-Dichloroethane	342	2	7	
Dichloromethane	18	26	<1	
Chloroform	4	9	18	
Trichloroethylene	NF	<1	NF	
Bromodichloromethane	NF	6	14	
Chlorodibromomethane	NF	NF	3	
			~ ~ ~ ~	

NF - indicates parameter not found to be present

Analytical Results from KWRP Tertiary Effluent Samples - November 1987 (All results in ug/L)

TRACE METALS:

			DATE		
Parameters	11/06/87	11/14/87	11/18/87	11/22/87	11/30/87
Cadmium	1.6	2.0	1.0	1.7	2.7
Lead	6.7	9.3	<5.0	7.6	6.9
Silver	3.6	2.4	3.9	5.5	4.2
Amenable Cyanide (CN)	*<10.6	<5.00	*<8.90	*<9.60	*<13.2

* - indicates the total CN less that amenable CN

TRACE ORGANICS:

		DATE		
Parameters	11/12/87	11/18/87	11/24/87	
1,2-DCEA	10 *	35*	143*	
Total PCBs	<0.09	<0.09	NS	

★ - Note: These results are the average of three (3) separate grab samples collected throughout the day.

NS - Indicates samples not collected on these dates

Tertiary Effluent data for the month of December 1987 (All results are in ug/L)

TRACE METALS:

**		DATE		
Parameters	12-8-87	12-17-87	12-25-87	
Cadmium	2	2	1	
Lead	12	5	6	
Silver	1	4	4	
Amenable CN	13.0	NR	<5.0	

NR - indicates no result for that date due to amenable CN > total CN.

TRACE ORGANICS:

			DATE		
Parameter	12/4/87	12/10/87	12/18/87	12/22/87	12/30/87
1,2 - DCEA	115	535	24	634	7

Note: All results are the average of three (3) separate grab samples collected throughout the day.

		m	\mathbf{r}
1 1	11	٠,٠	74

Parameter	12/9/87	12/14/87	
Total PCBs	<0.05	<0.05	

Tertiary Effluent Data for the month of February 1988 (All results are in ug/L)

TRACE METALS:

DATE	
------	--

PARAMETERS	2/03/88	2/08/88	2/15/88	2/23/88	
Cadmium	2.3	4.2	3.6	2.0	
Lead	13	19	17	9.2	
Silver	4.3	8.3	7.4	2.8	
Mercury	<0.5	<0.5	<0.5	<0.5	

TRACE ORGANICS:

DATE

PARAMETER	2/02/88 *	2/12/88	2/19/88
1,2 - DCEA	8 (8:30am) 13 (10:55am) 9 (1:10pm)	9 4	37

* - Samples run separately instead of being composited at the work head (for 2/2/88 only).

DATE

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PARAMETER	2/19/88	2/26/88
Total PCBs	<2.0 *	<0.1
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		

* - Note that higher detection limit is due to sample matrix interferences.



Tertiary Effluent Data for the Month of March 1988 All Results are in ug/l

Trace Metals:

D	а	t	ρ

Parameter	3/3/88	3/11/88	3/19/88	3/23/88	3/27/88
Cadmium	1.20	1.59	2.42	0.86	0.56
Lead	6.5	10.6	12.2	7.7	7.5
Silver	1.16	1.86	2.15	0.80	0.57
Mercury	<0.5	<0.5	<0.5	<0.5	<0.5
Cyanide Total	9.40	6.90	7.35	7.06	8.24
Cyanide Amenable*	<9.40	<6.90	<7.35	<7.06	<8.24

Trace Organics:

Date

Parameter	2/26/88	3/5/88	3/14/88	3/21/88
1,2-DCEA	43	<4	3	ND

Date

Parameters	3/17/88	3/22/88
Total PCBs	<0.1	<0.1

^{*} Interference detected in analyses ND No data due to instrument malfunction.



Tertiary Effluent Data for Month of April 1988 (all results are in ug/L)

Trace Metals:

		Dates		
Parameter	4/4/88	4/12/88	4/21/88	4/29/88
Cadmium	1.03	0.95	1.90	1.88
Lead	5.8	5.8	10.5	12.5
Silver	1.05	1.58	1.88	2.73
Mercury	<0.50	<0.50	<0.50	<0.50
Cyanide Total	<u>₹</u> 5.00	10.3	<5.00	<u>₹</u> 5.00
Cyanide Amendable	<u>₹</u> 5.00	<u><</u> 10.3*	<5.00	

Trace Organics:

		Dates	
Parameter	4/4/88		4/25/88
1,2-DCEA	8		1
Parameter		Date	
		4/5/88	
Total PCBs		<0.1	

^{*} Concentration of cyanide amendable to chlorine is greater than the total cyanide.



Tertiary Effluent Data for the Month of May 1988 All Results are in ug/l

Trace Metals:

Da	te
----	----

Parameter	5/7/88	5/11/88	5/15/88	5/23/88
Cadmium	2.67	2.33	1.70	2.83
Lead	13.5	13.3	10.8	9.0
Silver	2.88	2.64	1.91	1.45
Mercury	<0.50	<0.50	<0.50	<0.50
Cyanide Total	12.0	6.00	9.00	6.78
Cyanide Amenable	<12.0	<6.00	<u><</u> 9.00	≤5.00

Trace Organics:

Date

Parameter	5/5/88	5/11/88	5/18/88
1,2-DCEA	<1	147	3

Date

Parameter	5/5/88	5/19/88
Total PCBs	<0.1	<0.1

Tertiary Effluent Data for the Month of June 1988 All Results are in ug/l

Trace Metals:

			Date		
Parameter	6/2/88	6/11/88	6/18/88	6/22/88	6/26/88
Cadmium	1.38	.99	1.96	1.26	0.80
Lead	10.6	8.8	7.0	6.3	3.6
Silver	1.87	1.71	1.57	1.77	0.87
Mercury	<0.50	<0.50	<0.50	<0.50	<0.50
Cyanide Total	6.46	12.8	17.8	74.2	13.1
Cyanide Amenable	<5	<12.8	<17.8	60.8	7.60

Trace Organics:

Date

Parameter	6/3/88	6/9/88	6/17/88	6/22/88
1,2-DCEA	<1	<1	7	15

Date

Parameter	6/6/88	6/16/88
Total PCBs	<0.1	<0.1

FORM 5 UPSET, INTERFERENCE, AND PERMIT VIOLATIONS

	Explanation/Reason	Corrective Action(s)
Type of Incident Frequence	cy for Incident(s)	Taken
Final Effluent in Septe Concentration Excursion (as repo (over the 200 ug/L NPDES September Permit monitoring December	The Upjohn Comopany, one of users of this material, was to be discharging relative concentrations of 1,2-Dich ethane on a batch basis aft phase separation in one progressive. The other user, Kalaspice Extraction Company (I was found to have only a sequentity stored on site (< gallons). KALSEC was also to determine if they were a tributor. It was determine they were not through extensimpling.	Upjohn Company representatives plus extensive sampling of various Upjohn discharges and the Oduction amazoo RALSEC), mall sampled sampled a con- ed that Upjohn Company representatives plus extensive sampling of various Water Reclamation Plant (KWRP) influent and effluent, The Upjohn Company agreed to install a secondary surge tank to enhance the phase separation that was already occurring. This tank, which was installed

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FORM 6 INDUSTRIAL USER MONITORING

Industrial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
1. Allied Paper Co.	Daily	6-17-87	N	xxx	xxx
2. American Cyanamid	July 26-30, 1987 October 1, 1987 January 12, 1988 May 31-June 3, 1988	6–17–87	N	xxx	xxx
3. Arvan Corporation	Sept. 3-4, 1987 Nov. 9-13, 1987 Apr. 26-19, 1988	12-12-86	N	xxx	xxx
4. Beach Products	Aug. 31 - Sept. 4, 1987 Sept. 8, 1987 Nov. 5, 1987 Nov. 30 - Dec. 4, 1987 Jan. 27, 1988 Feb. 4, 1988 Apr. 11-15, 1988 May 5, 1988	10-29-87	N	xxx	xxx
5. Strebor, Inc. (formerly Beechum Home Improvement Products)	Oct. 7, 1987 Jan. 22, 1988	5–27–87	N	xxx	xxx
6. Borgess Hospital	July 2, 1987 Sept. 9, 187 Sept. 23, 1987 Oct. 5, 1987 Feb. 19, 1988 Mar. 10, 1988 June 13, 1988 June 16, 1988	2-24-87	N	XXX	xxx

FORM 6
INDUSTRIAL USER MONITORING
(continued)

Industrial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
7. Borroughs-Lear Siegler	July 1, 1987 Aug. 3-7, 1987 Nov. 16, 1987 Feb. 8-12, 1988 Mar. 16, 1988 June 1, 1988	3-31-87	N	xxx	xxx
8. Bowers Manufacturin Company	July 1, 1987 Sept. 21-25, 1987 Nov. 9, 1987 Jan. 17-21, 1988 Feb. 5, 1988 Apr. 17-21, 1988	1-21-87	N	xxx	xxx
9. Bronson Hospital	Sept. 17, 25, and 30, 1987 Oct. 6, 8, and 12, 1987 Feb. 24 & 29, 1988 Mar. 8, 1988	6-9-87	N	xxx	xxx
10. Bronson Outpatient Clinic	June 13-17, 1988	6-9-87	N	xxx	xxx
11. Checker Motors	July 7, 1987 Sept. 21, 1987 Nov. 2-6, 1987 Jan. 21, 1988 May 3-6, 1988	3-24-87	N	xxx	xxx

FORM 6
INDUSTRIAL USER MONITORING
(continued)

Indu	strial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
12.	Continental Linen	July 7, 1987 Aug. 10-14, 1987 Dec. 9, 1987 Jan. 12-15, 1988 Feb. 16, 1988 Apr. 22, 1988	4-2-87	N	xxx	xxx
13.	Diapers Unlimited	July 9, 1987 Aug. 10-14, 1987 Oct. 20, 1987 Jan. 12-15, 1988 Feb. 9, 1988	3–26–87	N	xxx	xxx
14.	Doubleday Brothers	July 20-24, 1987 Oct. 9, 1987 Jan. 12-15, 1988		N	xxx	xxx
15.	Durametallic	July 10, 1987 Sept. 14-18, 1987 Nov. 6, 1987 Feb. 2, 1988 Apr. 11-15, 1988	7–9–87	N	xxx	xxx
16.	Swift-Eckrich	Aug. 14-18, 1987 Oct. 13, 1987 Dec. 7, 1987 Feb. 1-5, 1988 Feb. 22-23, 1988 June 17, 1988	2-24-87	N	xxx	xxx
17.	General Motors - B.O.C. Division	July 13, 1987 Sept. 18, 1987 Nov. 2-6, 1987 Apr. 25-29, 1988	5–18–87	И	xxx	xxx

FORM 6
INDUSTRIAL USER MONITORING
(continued)

Indu	strial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
19.	Harrison Packing	Aug. 5, 1987 Nov. 25, 1987 Jan. 8, 1988 June 13-17, 1988	3–3–87	N	xxx	xxx
20.	Hercules, Inc.	July 21, 1987 Sept. 28 - Oct. 2, 1987 Dec. 29, 1987 June 6-10, 1988	5–7–87	N	xxx	xxx
21.	Haviland Products	July 17, 1987 Nov. 2-6, 1987 Dec. 5, 1987 Jan. 7, 1988 May 30-June 3, 1988 June 7, 1988	11-13-86 and 6-14-88	N	xxx	xxx
22.	Georgia-Pacific	Daily	7-15-87 (completed)	Y	Slug discharge of Kymene 835 without notification on 11-17-87	Site inspection was conduct— ed and letter of violation was sent on 12-8-87 (copy to MDNR)
23.	Inmont	July 22,1987 Sept. 9, 1987 Nov. 10, 1987 Dec. 7-11, 1987 Jan. 18, 1988 Apr. 26, 1988	6–23–87	N	xxx	xxx

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FORM 6
INDUSTRIAL USER MONITORING
(continued)

Indu	strial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
24.	James River	Daily	12-30-87 (completed)	N	xxx	xxx
25.	Kalamazco Container (Green Bay Packaging Division)	Aug. 17-21, 1987 Oct. 21, 1987 Feb. 8-12, 1988 Mar. 17, 1988	4-9-87	N	xxx	xxx
26.	Kalamazco Creamery	July 28-89, 1987 Oct. 14, 1987 Oct. 19-23, 1987 Nov. 13, 1987 Jan. 26, 1988 Feb. 1, 1988 June 3 & 14, 1988 June 20-24, 1988	2-26-87	N	xxx	xxx
27.	Kalamazoo Metal Finishers (KMF), Inc.	July 6-10 and 30, 1987 Oct. 16, and 19-23, 1987 Nov. 24, 1987 Jan. 18-19, 1988 Feb. 16-19, 26 & 28, 1988 Mar. 1-5, 7-11 & 14 and 15, 1988 Apr. 18-22, 1988 May 23-27, 1988	1-27-87 & 6-8-88	Y	High Zinc discharge in excess of Fed. Cat. Standards	Letter of violation sent plus shut-off of discharge. (See Forms 4 & 11).
28.	Kalamaz∞ Aluminum Finishing	Dec. 14-18, 1987 Feb. 15-19, 1988 June 13-17, 1988	12-9-87	N	xxx	xxx

FORM 6
INDUSTRIAL USER MONITORING
(continued)

		Sampling	Inspection	Violation	Nature of	Enforcement
Indi	strial User	Date(s)	Date(s)	(Y/N)	Violation	Action
29.	Kalamazoo Stamping and Die	Aug. 3, 1987 Sept. 14-18, 1987 Nov. 23, 1987 Dec. 8, 1987 Mar. 14-18, 1988	5-12-88	N	xxx	xxx
30.	Peterson Spring Company (formerly Kalamazoo Spring Co.)	July 31, 1987 Nov. 16-20, 1987 Mar. 21-25, 1988 May 16-20, 1988	12–3–87	N	xxx	xxx
31.	Kalamazoo Stripping and Derusting	Aug. 7, 1987 Sept. 22, 1987 Nov. 16-20, 1987 Mar. 15-18, 1988	5-14-87	Y	Low pH discharge below local ordinance limits.	Verification sampling done. Needs further investigation. (See Form 11)
32.	KALSEC, Inc.	Aug. 17-21, 1987 Sept. 24, 1987 Jan. 14, 1988 Apr. 26-29, 1988	4-21-87	N	xxx	xxx
33.	KEPCO	Dec. 10, 1987 Ja. 25-29, 1988 Mar. 22, 1988 Apr. 18-22, 1988	11-5-87	*	*	* - Possible metals and pH viola- tions. Poor sample point available (See Form 11)

FORM 6
INDUSTRIAL USER MONITORING
(continued)

Indu	strial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
34.	LSI/Kala	Aug. 10, 1987 Oct. 22, 1987 Nov. 9-13, 1987 June 6-10, 1988	4-23-87	N	xxx	xxx
35.	Laboratory Research Enterprises (LRE), Inc.	Aug. 11, 1987 Oct. 2, 1987 Oct. 26-30, 1987 Nov. 16-20, 1987 Jan. 29, 1988 Apr. 4-8, 1988 June 27 - July 1, 1988	4-28-87	У	High solids discharge	Under compliance schedule (see Form 11)
36.	Lakeside Refining Company	Aug. 12, 1987 Dec. 18, 1987 Jan. 28, 1988 Apr. 25, 1988 May 31 - June 3, 1988	3–18–87	N	xxx	xxx
37.	Landscape Forms, Inc.	Nov. 30 - Dec. 4, 1987 June 13-17, 1988	9-24-87	N	xxx	xxx
38.	Mead Products (Westab)	Aug. 13, 1987 Nov. 20, 1987 Feb. 15, 1987 Apr. 21, 1988 May 31 - June 3, 1988	5–10–88	N	xxx	xxx
39.	Nickal Paper Company	Daily	6-1-88	И	xxx	xxx

FORM 6
INDUSTRIAL USER MONITORING
(continued)

Indu	strial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
40.	NWL Control Systems (Pneumo Abex)	Sept. 14-16, 1987 Dec. 21, 1987 Feb. 22-26, 1988 Apr. 7,8,12,14 and 18, 1988 May 23-27, 1988	2-10-87	*	*	* - Possible metals violation. Have done some verfication sampling (see Form 11).
41.	Nuco Truck Lines	Aug. 17, 1987 Sept. 11, 1987 Nov. 19, 1987 Jan. 18-21, 1988	1-14-87	N	xxx	xxx
42.	Port City Paints	Aug. 18, 1987 Sept. 10, 1987 May 31-June 3, 1988 June 21, 1988	6-4-87	*	*	* - Possible metals violation (mercury). (See Form 11)
43.	Precision Heat Treating	No sample taken due to removal of sample point	11-13-86	И	xxx	xxx
44.	Production Painting	Nov. 23-25, 1987	2-19-87	N	xxx	xxx
45.	Production Plated Plastics	Dec. 21, 1987 Mar. 7-11, 1988 May 31, 1988 June 6-10, 1988	3–29–88	N	xxx	xxx

FORM 6
INDUSTRIAL USER MONITORING
(continued)

Indu	strial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
46.	Roto-Finish Company, Inc.	Dec. 7-11, 1987 Jan. 14,20,26, 1988 Feb. 1,9,17, 1988	8-24-87	Y	MOCA discharge noted	Verification sampling plus six-weeks monitoring program started. Company went out of busi-ness. (See Forms 2 and 11)
47.	Sinclair & Valentine	Aug. 19, 1987 Oct. 15, 1987 Feb. 1-5, 1988	3-5-87	N	xxx	xxx
48.	Spearflex Industries	Dec. 17, 1987 June 6, 1988	11-14-86	N	xxx	xxx
49.	Textile Systems, Inc.	July 20-24, 1987 Sept. 2, 1987 Oct. 23, 1987 Jan. 20, 1988 June 22, 1988 June 28 - July 1, 1988	11-12-87	N	xxx	xxx
50.	Unifab-Applied Coatings	July 13-17, 1987 Oct. 26-30, 1987 Jan. 5-8, 1988 Apr. 18-22, 1988	10-16-87	N	xxx	xxx

FORM 6
INDUSTRIAL USER MONITORING
(continued)

Indi	strial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
51.	Union Camp	Aug. 20, 1987 Sept. 28 - Oct. 2, 1987 Dec. 3, 1987 Jan. 15, 1988 Jan. 26-29, 1988	4-14-87	N	XXX	XXX
52.	The Upjohn Company (Bishop Road)	Daily	Began 6-30-88 (still in progress)	Y	Effluent pass-through of 1,2-DCEA	Verfication sampling plus other detailed investigations (see Forms 5 and 11)
53.	The Upjohn Company (Downtown)	Aug. 24-31, 1987 Sept. 28, 1987 Oct. 5-9, and 12-16, 1987 Dec. 11,16,31, 1987 Jan. 6, 1988 Mar. 3, 11, 1988 May 9-13 and 16-20, 1988		N	xxx	xxx
54.	The Upjohn Company (Kilgore Road - No. 248)	No samples taken (no sample point available)	6-2-87	N	xxx	xxx
55.	The Upjohn Company (Agricultural Farms)	Sept. 21-25, 1987 Oct 12-16, 1987 Dec. 1, 1987 Mar. 21, 1988 June 6-10, 1988 June 22, 1988	5–5–87	N	xxx	xxx

FORM 6
INDUSTRIAL USER MONITORING
(continued)

Industrial User	Sampling Date(s)	Inspection Date(s)	Violation (Y/N)	Nature of Violation	Enforcement Action
56. Walgreen Labs	July 13-17, 1987 Sept. 29, 1987 Jan. 5-8, 1988	5-13-87	N	xxx	xxx
57. Wright Coating	Aug. 21, 1987 Nov. 18, 1987 Dec. 28-31, 1987 Feb. 3 and Feb. 18, 1988 May 3-6, 1988	2-12-87	N	xxx	xxx

FORM 7
PLANNED INDUSTRIAL USER MONITORING SCHEDULE

Inc	Austrial User	Sampling Frequency/ Year	Inspection Frequency/ Year
1.	Allied Paper	Daily	As needed
2.	Aluminum Finishing	Quarterly	As needed
3.	American Cyanamid	Semi-annually	As needed
4.	Applied Coatings	Quarterly	As needed
5.	Arvan - Rochester Street	Annually	As needed
6.	Arvan - Parkway Street	Annually	As needed
7.	Beach Products	Annually	As needed
8.	Strebor	Annually	As needed
9.	Borgess Hospital	Annually	As needed
10.	Borroughs Lear Siegler	Semi-annually	As needed
11.	Bowers Manufacturing	Quarterly	As needed
12.	Bronson Nethodist Hospital	Annually	As needed
13.	Bronson Outpatient Clinic	Annually	As needed
14.	Checker Notors	Annually	As needed
15.	Continental Linen	Semi-annually	As needed
16.	Diapers Unlimited	Semi-annually	As needed
17.	Coubleday Brothers	Annually	As needed
18.	Durametallic	Semi-annually	As needed
19.	Ceorgia Pacific	Caily	As needed
20.	Ceneral Motors B.O.C.	Semi-annually	As needed
21.	Green Bay Packaging	Semi-annually	As needed
22.	Harrison Packing	Annually	As needed

FORM 7
PLANNED INDUSTRIAL USER MONITORING SCHEDULE

		Sampling Frequency/	Inspection Frequency/
Indu	strial User	Year	Year
23.	Haviland Products	Annually	As needed
24.	Hercules	Semi-annually	As needed
25.	Humphrey Products	Annually	As needed
26.	Inmont	Annually	As needed
27.	International Paper	Annually	As needed
28.	James River	Daily	As needed
29.	Kalamazoo College	Annually	As needed ·
30.	Kalamazoo Creamery	Semi-annually	As needed
31.	Kalamazoo Gazette	Annually	As needed
32.	Kalamazoo Metal Finishers	Quarterly	As needed
33.	Kalamazoo Radiology	Annually	As needed
34.	Kalamazoo Stamp and Die - Palmer Street	Annually	As needed
35.	Kalamaz∞ Stamp and Die - Glendenning Avenue	Annually	As needed
36.	Kalamazoo Stripping and Derusting	Semi-annually	As needed
37.	KALSEC	Semi-annually	As needed
38.	KEPCO	Quarterly	As needed
39.	KVCC	Annually	As needed
40.	Laboratory Research Enterprises	Quarterly	As needed
41.	Lakeside Refining	Annually	As needed
42.	Landscape Forms	Quarterly	As needed
43.	LSI/KALA	Semi-annually	As needed

FORM 7
PLANNED INDUSTRIAL USER MONITORING SCHEDULE

		Sampling Frequency/	Inspection Frequency/
Indu	strial User	Year	Year
44.	Mastercraft	Annually	As needed
45.	Mead Products	Annually	As needed
46.	Megaloid	Annually	As needed
47.	Midwest Aluminum	Quarterly	As needed
48.	NICKAL Paper	Daily	As needed
49.	NUCO	Semi-annually	As needed
50.	Oliver & Tobias	Annually	As needed
51.	Peterson Spring	Quarterly	As needed
52.	Plastic Engineering	Annually	As needed
53.	Pneumo	Quarterly	As needed
54.	Port City Paints	Annually	As needed
55.	Production Plated Plastics	Quarterly	As needed
56.	Production Painting	Semi-annually	As needed
57.	Sinclair Valentine	Annually	As needed
58.	Spectrum Colors	Annually	As needed
59.	Stryker	Annually	As needed
60.	Swift-Eckrich	Annually	As needed
61.	Textile Systems	Annually	As needed
62.	Union Camp	Semi-annually	As needed
63.	Upjohn - Agricultural Research	Semi-annually	As needed
64.	Upjohn - Bishop Road	Daily	As needed
65.	Upjohn - Downtown	Annually	As needed
66.	Upjohn - Kilgore Road	Annually	As needed

FORM 7
PLANNED INDUSTRIAL USER MONITORING SCHEDULE

Indi	strial User	Sampling Frequency/ Year	Inspection Frequency/ Year
67.	Walgreen Labs	Annually	As needed
68.	Watervliet Foundry	Annually	As needed
69.	Western Michigan University - McCracken Hall	Semi-annually	As needed
70.	Western Nichigan University - Rood Hall	Annually	As needed
71.	Western Michigan University - Sangren Hall	Annually	As needed
72.	Western Michigan University - Print Shop	Annually	As needed
73.	Western Michigan University - Welborne	Annually	As needed
74.	Wright Coating	Semi-annually	As necded

NOTE: Nost industrial users have been given an initial inspection as of this date. A few major industries, i.e., Upjohn - Bishop Road and Western Michigan University, are still in the process of being inspected. These inspections are quite lengthy and intensive; consequently, a major amount of time needs to be dedicated to them. Cnce these are completed, a reinspection program will be implemented.

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IPP INSPECTIONS CONDUCTED

Con	pany	Date	Inspector(s)
1.	Durametallic	July 9, 1987	KI & DII
2.	Borgess Hospital	May 12 - July 15, 1987	JNI & CL
3.	Ceorgia Pacific	June 30 - July 15, 1987	JV & CL
4.	James River	August 24 - December 30, 1987	CL & JW
5.	Landscape Forms	September 24, 1987	CL & JV
6.	Roto Finish	August 24, 1987	Bil
7.	Leonard Sheet Metal	October 27, 1987	ЛІ
8.	Beach Products (Fulford & Emerald)	October 29, 1987	Л1
9.	Unifab - Applied Coatings	October 16, 1987	VIC.
10.	KEPCO	November 5, 1987	JW & MI
11.	Textile Systems	November 12, 1987	Лi
12.	Humphrey Products	December 1, 1987	CL
13.	Peterson Spring	December 3, 1987	V.T.
14.	Prab Robots	December 8, 1987	CL & MI
15.	Kalamazoo Aluminum Finishing	December 9, 1987	Лı
16.	Megaloid	February 15, 1988	J.,
17.	Production Plated Plastics	March 29, 1988	CL & JW
18.	Spectrum Colors	April 19, 1988	CL & JW
19.	James River KVP	April 27, 1988	CL & JV
20.	International Paper	April 12, 1988	CL & JVI
21.	Simpson Paper	May 3, 1988	CL & JN
22.	Stryker	June 7, 1988	J₩
23.	Valley Plastics	May 12, 1988	VI
24.	Allen Test Products (2 sites)	May 26, 1988	CL
25.	Charles River	May 10, 1988	CL
26.	Mall City Containers	May 19, 1988	J.1

IPP INSPECTIONS CONDUCTED

Con	pany	Date	Inspector(s)
27.	Mead Products	May 10, 1988	JN
28.	Kalamaz∞o Stamp & Die (2 sites)	May 12, 1988	CL
29.	Naster Craft	June 9, 1988	JNi
30.	Oliver & Tobias	June 16, 1988	J\!
31.	Root Spring Scraper	June 16, 1988	CL
32.	Watervliet Foundry	May 17, 1988	CL & JW
33.	Hexagon Honeycomb	April 8, 1988	CL & JW
34.	NICKAL Paper	June 1, 1988	CL & JW
35.	Kalamazoo Plastics	June 6, 1988	CL
36.	Pemco Wheel	June 8, 1988	CL
37.	Haviland Products	June 14, 1988	JVi
38.	Azon Sytems	June 22, 1988	CL
39.	Schaffer Bakeries	June 23, 1988	JN
40.	Ideal Eattery	June 14, 1988	CL
41.	Kalamazoo Radiology	July 5, 1988	CL
42.	Precast Schokbeton	June 27, 1988	CL
43.	Panoplate Lithographics	June 27, 1988	CL
44.	Sequoia Press	July 6, 1988	CL
45.	Kal Chem	June 20, 1988	CL
46.	Griffin Pest Control	June 21, 1988	JW

FORM 8
COMPLIANCE WITH LOCAL AND FEDERAL STANDARDS 1

Ind	ustrial User ²	Notified (Y/N)	BMRs Received (Y/N)3	In Compliance (Y/N)	Subject to Compliance Schedule (Y/N)	Final Date of Compliance	Compliance Not Investigated (Y/N)
1.	Production Plated Plastics (F)	Y	Y (D.D.)	Y	N	7–23–87	
2.	American Cyanamid (F)	Y	Ү (В)	Y	* (Not issued yet)		
3.	Kalamazoo Aluminum Finishing (F)	N	Y (D.D.)	*	Needs Fu	rther Investiga	ation
4.	Landscape Forms (F)	N	Y (D.D.)	*	Needs Fu	rther Investiga	ation

NOTE:

lAdditional sheets may be needed depending on number of affected users.

²If the industrial facility is covered by local limits, use the symbol "L" after the facility's name. If covered by Federal standards, use the symbol "F". If covered by both, use symbol "LF".

³The POTW may elect to utilize a permit application or data disclosure form in lieu of a BMR. If this is the case, use the following identifiers after "Y": BMR = B, Permit Application = P.A., Data Disclosure = D.D.

FORM 8

COMPLIANCE WITH LOCAL AND FEDERAL STANDARDS 1

(continued)

Inc	lustrial User ²	Notified (Y/N)	BMRs Received (Y/N) ³	In Compliance (Y/N)	Subject to Compliance Schedule (Y/N)	Final Date of Compliance	Compliance Not Investigated (Y/N)
5.	Laboratory Research Enterprises (LRE), Inc. (L)	Y	Y (D.D.)	N	Y	9–15–88	Y
6.	Strebor, Inc. (Formerly Beechum Home Improvemet Products) (L)	Y	Y (D.D.)	Y	N		Y
7.	Nickal Paper Company (LF)	Y	Y (D.D.)	Y	N		Y
8.	Megaloid Chemical Corp. (L)	N	Y (D.D.)	*	Needs Fui	rther Investiga	ation

NOTE:

¹Additional sheets may be needed depending on number of affected users.

²If the industrial facility is covered by local limits, use the symbol "L" after the facility's name. If covered by Federal standards, use the symbol "F". If covered by both, use symbol "LF".

³The POTW may elect to utilize a permit application or data disclosure form in lieu of a BMR. If this is the case, use the following identifiers after "Y": BMR = B, Permit Application = P.A., Data Disclosure = D.D.

FORM 9

INDUSTRIAL USERS ISSUED PERMITS, CONTRACTS OR IWAS

Industrial User/ Address	SIC Code	Issuance Date	Expiration Date	Pollutants Limited ^l	Average Flow	* Monitoring Frequency ²	Compliance Schedule (Y/N)	e Compliance Date	Comments
Kalamazoo Metal Finishers P.O. Box 2650 Kalamazoo, MI 49003	3471	3-23-88	1-12-89	metals, F	33,000 gpd	4xMo. S	N		Metal finishers
Laboratory Research Enterprises 6321 S. Sixth St. Kalamaz∞, MI 49009	0200	3-23-88	3-23-89	solids, L	27,500 gpd		Y	9-15-88	Compliance schedule requires removal of heavy solids.
Swift-Eckrich 631 Second St. Kalamazoo, MI 49007	2010 2013	3/87		main notes upon	319,000 gpd	angelinea	N		interim
Kalamazoo Creamery 706 Lake Street Kalamazoo, MI 49001	2020 2023	3/87			47,000 gpd		N		interim
Harrison Packing 116 E. Ransom Kalamazoo, MI 49007	2035 5149	3/87			25,000 gpd		N		interim
Haviland Products 2722 N. Burdick Kalamazoo, MI 49005	2800 2810 2840 2860	3/87			4,700 gpd		N		interim

 $^{^{\}mathrm{l}}$ List the pollutant and the numerical limit. Identify if limit is locally developed by the symbol "L" after the value or with the symbol "F" if it is Federal standard.

²To differentiate between monitoring frequencies, use an S for industrial upset self-monitoring and P for POTW compliance monitoring.

FORM 9

INDUSTRIAL USERS ISSUED PERMITS, CONTRACTS OR IWAS

Industrial User/ Address	SIC Code	Issuance Date	Expiration Date	Pollutants Limited ^l	Average Flow	* Monitoring Frequency ²	Compliance Schedule (Y/N)	e Compliance Date	Comments
American Cyanamid P.O. Box 3309 Kalamazoo, MI 49003	2819 2860 2879 2890	3-87			139,000 gpd		N		interim
Lakeside Refining 2705 E. Cork Kalamaz∞, MI 49001	2911	3-87			65,000 gpd		N		interim
James River Corp. 243 E. Paterson Kalamaz∞, MI 49007	2631 2640	3-87			872,000 gpd		N		interim
Allied Paper Co. 2030 Portage St. Kalamaz∞, MI 49001	2621	3-87			1.2 MGD		N		interim
Georgia-Pacific 2425 King Hwy Kalamazoo, MI 49001	2621	3–87	*****		3.7 MGD		N		interim
The Upjohn Co. 7171 Portage Kalamaz∞, MI 49001	2830	8-21-87			2.4 MGD		N		interim
Inmont Corp. 620 Commerce IN Parchment, MI 49004	2893	3–87			500 gpd	******	N		interim

 $^{^{1}}$ List the pollutant and the numerical limit. Identify if limit is locally developed by the symbol "L" after the value or with the symbol "F" if it is Federal standard.

 $^{^2}$ To differentiate between monitoring frequencies, use an S for industrial upset self-monitoring and P for POTW compliance monitoring.

FORM 9

INDUSTRIAL USERS ISSUED PERMITS, CONTRACTS OR IWAS

Industrial User/	SIC	Issuance	Expiration	Pollutantș	Average	* Monitoring	Compliance Schedule	Compliance	
Address	Code	Date	Date	Limited ¹	Flow	Frequency ²	(Y/N)	Date	Comments
Diapers Unlimited 814 Nola Kalamaz∞, MI 49007	7214	3-87			25 , 900 gpd		N		interim
Hercules, Inc. 411 Hercules Ave. Parchment, MI 49007	2890	3–87			24,400 gpd		N		interim
Continental Linen 4200 Manchester Kalamazoo, MI 49002	7210	3–87			34,000 gpd		N		interim
Kalsec, Inc. P.O. Box 511 Kalamazco, MI 49005	2087 2099	3–87			63,000 gpd		N		interim
Green Bay Pkg., Inc. Kalamaz∞ Container P.O. Box 71 Kalamaz∞, MI 49005		3–87			30,000 gpd		N		interim
Walgreen Labs 3308 Covington Kalamaz∞, MI 49001	2830	3–87			4,500 gpd		N		interim
Union Camp Corp. 4015 Emerald Dr. Kalamazoo, MI 49001	2650	- 3–87	-		39,000 gpd		N		interim

 $^{^{}m l}$ List the pollutant and the numerical limit. Identify if limit is locally developed by the symbol "L" after the value or with the symbol "F" if it is Federal standard.

 $^{^2}$ To differentiate between monitoring frequencies, use an S for industrial upset self-monitoring and P for POIW compliance monitoring.

FORM 9

INDUSTRIAL USERS ISSUED PERMITS, CONTRACTS OR IWAS

Industrial User/ Address	SIC Code	Issuance Date	Expiration Date	Pollutants Limited ¹	Average Flow	* Monitoring Frequency ²	Compliance Schedule (Y/N)	c Compliance Date	Comments
Bowers Mfg. 5177 Comstock Ave. Kalamazoo, MI 49001	3471	3-87			8,500 gpd		N		interim
NWL Control Systems Pneumo-Abex Corp. 2220 Palmer Ave. Kalamazoo, MI 49001	3561 3728	3–87	- Anna Anna Anna Anna Anna Anna Anna Ann		250,000 gpd		N		interim
Wright Coating 339 E. Prouty Kalamazoo, MI 49007	3479	3–87			6,100 gpd		N		interim
Borroughs/LSI 3002 N. Burdick Kalamaz∞, MI 49007	2522 2542 3444	3-87			36,700 gpd		N	-	interim
Production Painting 1002 O'Neil St. Kalamazoo, MI 49001	3479	3-87		37 -32-2	1 , 150 gpd		N		interim
General Chemical 511 E. Paterson Kalamazoo, MI 49007	2819	3-87			0 gpd		N		interim
KEPCO (Kalamaz∞ Electropo 6615 Sprinkle Rd. Portage, MI 49002	3471 olishin	3-87 g)			*		N	*******	interim

 $^{^{\}mathrm{l}}$ List the pollutant and the numerical limit. Identify if limit is locally developed by the symbol "L" after the value or with the symbol "F" if it is Federal standard.

²To differentiate between monitoring frequencies, use an S for industrial upset self-monitoring and P for POIW compliance monitoring.

FORM 9

INDUSTRIAL USERS ISSUED PERMITS, CONTRACTS OR IWAS

Industrial User/	SIC	Issuance	Expiration	Pollutants		* Monitoring	Compliance Schedule	Compliance	
Address	Code	Date	Date	Limited ¹	Flow	Frequency ²	(Y/N)	Date	Comments
Bronson Hospital 252 E. Lovell Kalamazoo, MI 49007	8062	3–87			268,000 gpd		N		interim
Borgess Hospital 1521 Gull Road Kalamazoo, MI 49004	8060	3–87			228 , 000 gpd		N		interim
General Motors Corp. B.O.C. Division 5200 E. Cork St. Kalamazoo, MI 49001	3465 3711	3–87			220,000 gpd		И		interim
LSI/Kala 2325 N. Burdick Kalamaz∞, MI 49007	2790	3–87			10,800 gpd		N		interim
Beecham Prod. 2305 Superior Ave. Kalamazoo, MI 49001	2891	3-87			325,000 gpd		N		interim
Durametallic Corp. 2104 Factory St. Kalamazoo, MI 49001	3490 3499	3–87			20,600 gpd		N		interim
Checker Motors Corp. 2016 N. Pitcher Kalamaz∞, MI 49007	3710	3–87			379,000 gpd		N		interim

 $^{^{1}}$ List the pollutant and the numerical limit. Identify if limit is locally developed by the symbol "L" after the value or with the symbol "F" if it is Federal standard.

²To differentiate between monitoring frequencies, use an S for industrial upset self-monitoring and P for POTW compliance monitoring.

FORM 9

INDUSTRIAL USERS ISSUED PERMITS, CONTRACTS OR IWAS

Industrial User/ Address	SIC Code	Issuance Date	Expiration Date	Pollutants Limited ¹	Average Flow	* Monitoring Frequency ²	Compliance Schedule (Y/N)	Compliance Date	Comments
Peterson Spring Co. 9718 Portage Rd. Portage, MI 49002	3495	3-87			*	and the	N		interim
Spectrum Colors 3737 E. Milham Portage, MI 49002	2820 3079	3–87			*		N		interim
Kalamaz∞ Stripping and Derusting 7912 Sprinkle Rd. Portage, MI 49002	3471	3–87			*		N		interim
Production Plated Plastics 9899 East "D" Ave. Richland, MI 49083	3471 3479 3079	7–23–89	7–23–88	Trace metals, F	0.5 MGD	Monthly Reports -	N S	7-23-87 (upon discharge)	Ordered to hook-up to City sewer by court

*NOTE: See Form 7, Planned Industrial User Monitoring Schedule for POTW monitoring information.

*NOTE: Average flow data currently unavailable.

¹List the pollutant and the numerical limit. Identify if limit is locally developed by the symbol "L" after the value or with the symbol "F" if it is Federal standard.

 $^{^2}$ To differentiate between monitoring frequencies, use an S for industrial upset self-monitoring and P for POTW compliance monitoring.

FORM 9.a

INDUSTRIAL USERS REISSUED/MODIFIED PERMITS, CONTRACTS ON IWAS

Inc	dustrial User/ Address	Modified ¹ (Y/N)	Reissued ^l (Y/N)	Modification Issuance Date	Expiration Date	Comments
1.	Kalamazoo Metal Finishers (KMF), Inc. 2019 Glendenning P.O. Box 2650 Kalamazoo, MI 49003	Y	Y	3–23–88	1-12-89	Violation required shut-off of discharge. Administrative Order reissued at start-up of discharge.
2.	Laboratory Research Enterprises (LRE),Inc 6321 South Sixth Stre Kalamazoo, MI 49009		Y	3–23–88	3-23-89	Contained revised compliance schedule to reflect attainable construction activity of their pretreatment system.
3.	The Upjohn Company 7171 Portage Road Kalamazoo, MI 49001	Y	Y	8-21-87	Interim - will be reissued when local limits are finalized.	"Process change" language was modified to properly reflect the on-going activity being conducted by this industry.

Provide a summary of planned changes in implementing your pretreatment program.

Pending receipt of the EPA/MDNR Pretreatment Audit conducted in February 1988, several major changes may be necessary over the next year. Some of these changes may include:

- I. Local limitations for at least eight (8) trace metal compounds will be established based on industrial loadings, treatment plant design and removal rates. The eight (8) parameters are: cadmium, chromium, copper, lead, mercury, nickel, silver and zinc.
- II. Written policies and procedures regarding all enforcement activities will be established and incorporated into a formal enforcement program. This program will closely define what actions are to be taken depending on the violation(s) involved and will include a set fine structure for certain violations as well.
- III. Additional personnel, specifically dedicated to the Industrial Pretreatment Program (IPP), will be requested and, if approved, hired at the earliest date to provide increased support for the program.
 - IV. Sufficient policies and procedures will be developed and implemented to establish and enforce additional Industrial User (IU) self-monitoring and reporting as necessary to comply with the Administrative Order program. The addition of a IPP computer program this year will assist in monitoring this self-monitoring and reporting program.
 - V. Final Administrative Orders will be issued to all Significant Industrial Users (SIUs) containing both Federal Categorical standards (where applicable) and local limits as defined previously under Item I. Those SIUs not in compliance with Federal, State or local limits will be given appropriate compliance schedules to bring them into full compliance with the IPP at Kalamazoo as soon after the issuance of their Administrative Orders as possible.
- VI. Extensive analysis of the program will be conducted to determine what costs need to be assessed against the SIUs that will adequately recover the costs of the Kalamazoo IPP. This "rate study" will address sampling, analyses, record keeping, administrative and billing costs involved in the operation of the program.
- VII. The IPP computer program will be implemented fully over the next year to help facilitate data handling, record keeping, monitoring and enforcement.

FORM 11
SUMMARY OF POTW ENFORCEMENT ACTIONS 1

	A-A-A-			Number of POIW Actions to Obtain Compliance ³							
	lustrial Jser	Type of Violation	Notice of Violation (letter)	Informal Meeting	Show- Cause Hearing	Legal/ Judicial (order)	Other	Violation/ Resolved (Y/N)			
1.	Kalamazoo Metal Finishers (KMF), Inc.	Exceeded Fed. Cat. stds. for Cr and Zn	Yes	Yes	No	No	Sewer ban until treat- ment system problems resolved.	Yes			
2.	Georgia- Pacific	Slug discharge of Kymene 835	Yes	On-site visit at time of discharge.	No	dИ	No	Yes			
3.	The Upjohn Company - Bishop Road	1,2-DCEA pass-through in KWRP effluent	Yes	Several formal & informal meetings held.	No	No	No	Yes			
4.	Laboratory Research Enterprises (LRE), Inc.	Heavy solids in discharge causing sewer blockages	Yes	Several formal meetings held.	No	No	Compliance schedule re- negotiated and placed in Ad- ministrative Order.	See previous column.			

¹Additional sheets may be needed to describe a particular situation with a noncomplying facility.

²Type of violations should be listed. The POTW could make up their own code for describing the type of violation. The following codes can be used: failure to report (FR), failure to comply with Pretreatment Standards (FPS), falsification (F), tampering with equipment (T), interference (I), endangerment (E).

³ Describe on a separate sheet what actions were taken, if any entry is made in the "Other" column.

FORM 11

SUMMARY OF POIW ENFORCEMENT ACTIONS (continued)

				Number of POTW Actions to Obtain Compliance ³							
	ustrial ser	Type of Violation	Notice of Violation (letter)	Informal Meeting	Show- Cause Hearing	Legal/ Judicial (order)	Other	Violation/ Resolved (Y/N)			
5.	Kalamazoo Stripping and Derusting	Low ph discharge	No	No	No	No	Verification sampling done. Needs further investigation.	No			
6.	KEPCO	Low pH discharge and possible metals violations	No	No	No	No	Sampling done. Has poor sample point available - needs further investigation.	No			
7.	NWL Control Systems (Pneumo Abex)	Possible metals violations	No	Yes	Nο	No	Have done some verfication sampling - need flow measurements to apply combined waste stream formula.	No			
8.	Port City Paint	Possible metal violation	No	No	No	No	More sampling and flow mea-surement needs to be conducted.	No			

¹Additional sheets may be needed to describe a particular situation with a noncomplying facility.

²Type of violations should be listed. The POTW could make up their own code for describing the type of violation. The following codes can be used: failure to report (FR), failure to comply with Pretreatment Standards (FPS), falsification (F), tampering with equipment (T), interference (I), endangerment (E).

 $^{^{3}}$ Describe on a separate sheet what actions were taken, if any entry is made in the "Other" column.

FORM 11

SUMMARY OF POTW ENFORCEMENT ACTIONS 1

(continued)

				Num Actions to	mber of POTW O Obtain Comp	liance ³	
Industrial User	Type of Violation	Notice of Violation (letter)	Informal Meeting	Show- Cause Hearing	Legal/ Judicial (order)	Other	Violation/ Resolved (Y/N)
9. Roto-Finish Company, Inc.	"MOCA" discharge noted after sampling	Yes	Yes - discussed at inspec- tion over the phone.	No	No	Company went out of busi- ness (see Form 2)	Yes

¹Additional sheets may be needed to describe a particular situation with a noncomplying facility.

²Type of violations should be listed. The POTW could make up their own code for describing the type of violation. The following codes can be used: failure to report (FR), failure to comply with Pretreatment Standards (FPS), falsification (F), tampering with equipment (T), interference (I), endangerment (E).

³Describe on a separate sheet what actions were taken, if any entry is made in the "Other" column.

List all significant noncomplying industrial facilities that were public noticed in the local newspaper.

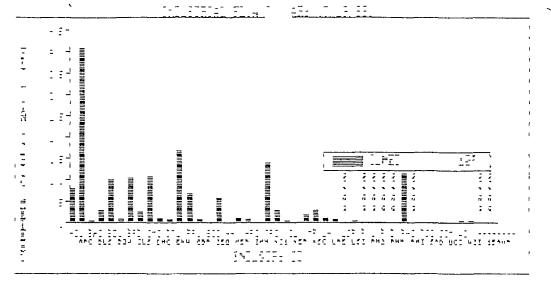
None

NAME	INDUSTRY ID	DATE ADDED	, CATAGORY
AMERICAN CYANAMID CO ALLIED PAPER CO BEECHAM HOME IMPROVEM BORROUGH LEAR SIEGLER BORGESS MEDICAL CENTE BOWERS MANUFACTURING BRONSON HOSPITAL CONTINENTAL LINEN CHECKER MOTORS DURAMETALLIC CORP DIAPERS UNLIMITED ECKRICH, WEST FISHER BODY GREEN BAY PACKAGING GENERAL CHEMICAL CO GEORGIA PACIFIC CORP HAVILAND PRODUCTS HERCULES-KALAMAZOO HARRISON PACKING CO INMONT DIVISION JAMES RIVER KAL CREAMERY PORT MH KAL CREAMERY LAKE MH KEPCO INC KALAMAZOO METAL FINIS KALSEC LAKESIDE REFINING LAB. RESEARCH ENTER., LANDSCAPE FORMS, INC. LSI-KALA PNEUMO CORP MH#1 PNEUMO CORP MH#2 PNEUMO CORP MH#2 PNEUMO CORP MH#4	APPISTON DEFECTION OF THE STATE	JUN 16, 1987 JUN 06, 1987 MAY 27, 1987 MAR 31, 1987 JUN 19, 1987 JUN 19, 1987 JUN 09, 1987 APR 24, 1987 MAR 26, 1987 MAR 26, 1987 MAR 26, 1987 MAR 12, 1987 MAR 12, 1987 MAR 03, 1987 MAR 03, 1987 MAR 03, 1987 MAR 03, 1987 MAR 03, 1987 MAR 21, 1987 MAR 23, 1987 FEB 26, 1987 APR 21, 1987 APR 21, 1987 APR 21, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987 FEB 10, 1987	SIGNIFCANT IND US SIGNIFCANT IND US
KALAMAZOO STRIP&DERUS SPECTRUM COLORS INC UNION CAMP CORP WRIGHT COATING INC WALGREEN LABS INC	1 30	MAY 14, 1987 APR 19, 1988 APR 14, 1987 FEB 12, 1987 MAY 13, 1987	SIGNIFCANT IND US
MILONELII CADO INC	1101	(IA) 13) 130)	

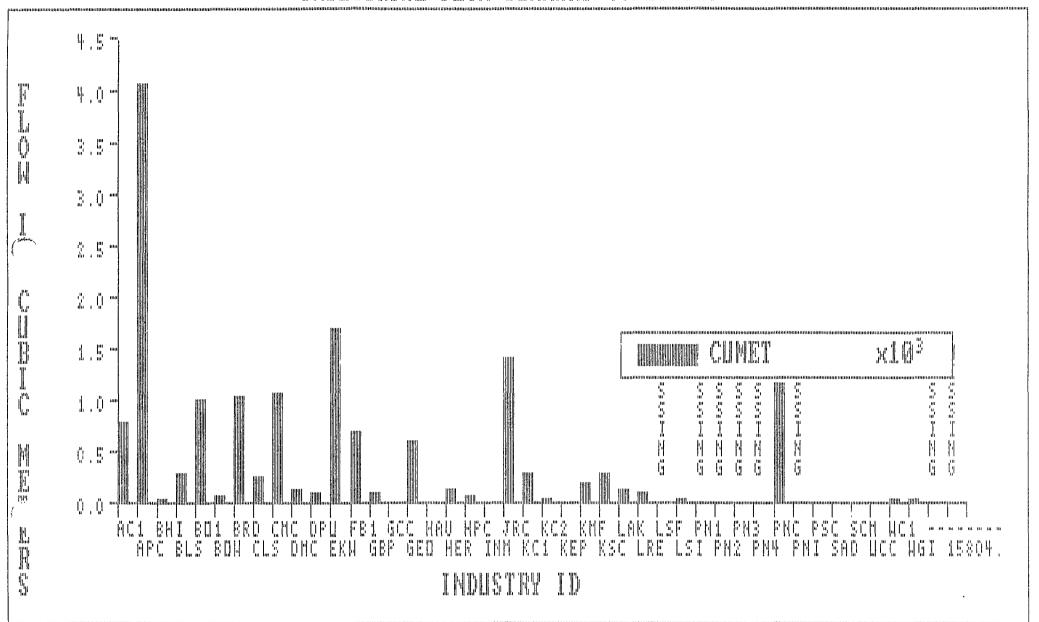
NAME	INDUSTRY ID	DATE ADDED TO IPP
ALLIED PAPER CO AMERICAN CYANAMID CO BEECHAM HOME IMPROVEM BORGESS MEDICAL CENTE BORROUGH LEAR SIEGLER BOWERS MANUFACTURING BRONSON HOSPITAL CHECKER MOTORS CONTINENTAL LINEN DIAPERS UNLIMITED DURAMETALLIC CORP ECKRICH, WEST FISHER BODY GENERAL CHEMICAL CO GEORGIA PACIFIC CORP GREEN BAY PACKAGING HARRISON PACKING CO HAVILAND PRODUCTS HERCULES-KALAMAZOO INMONT DIVISION JAMES RIVER KAL CREAMERY LAKE MH KAL CREAMERY LAKE MH KAL CREAMERY PORT MH KALAMAZOO METAL FINIS KALAMAZOO STRIP&DERUS KALSEC KEPCO INC LAB. RESEARCH ENTER., LAKESIDE REFINING LANDSCAPE FORMS, INC. LSI-KALA PETERSON SPRING CO. PNEUMO CORP MH#1 PNEUMO CORP MH#2 PNEUMO CORP MH#4	PNI APC AC1 EBHI RB01 BLS BOW BRD CMC	no date on record no date on record no date on record no date on record no date on record DEC 23, 1981 JAN 12, 1982 DEC 22, 1981 MAR 29, 1982
DIAPERS UNLIMITED DURAMETALLIC CORP	DPU DMC	no date on record no date on record
ECKRICH, WEST FISHER BODY GENERAL CHEMICAL CO	EKW FB1 GCC	DEC 09, 1981 no date on record no date on record
GEORGIA PACIFIC CORP GREEN BAY PACKAGING HARRISON PACKING CO HAVILAND PRODUCTS HERCULES-KALAMAZOO	GEO GBP HPC HAV HER	no date on record MAR 13, 1982 MAR 05, 1982 JUL 13, 1982 DEC 09, 1981
INMONT DIVISION JAMES RIVER KAL CREAMERY LAKE MH KAL CREAMERY PORT MH KALAMAZOO METAL FINIS	INM JRC KC2 KC1 HKMF	MAR 10, 1982 JAN 07, 1982 FEB 25, 1982 FEB 25, 1982 OCT 08, 1986
KALAMAZOO STRIP&DERUS KALSEC KEPCO INC	TSAD KSC KEP	MAY 12, 1987 JAN 18, 1982 NOV 05, 1987
LAB. RESEARCH ENTER., LAKESIDE REFINING LANDSCAPE FORMS, INC. LSI-KALA	LRE LAK LSF LSI	no date on record AUG 24, 1978 DEC 18, 1981 APR 14, 1987
PETERSON SPRING CO. PNEUMO CORP MH#1 PNEUMO CORP MH#2 PNEUMO CORP MH#4	PSC PN1 PN2 PN4	JAN 05, 1982 no date on record no date on record no date on record
PNEUMO CORP#3 PNEUMO-METAL FINISH RI SPECTRUM COLORS INC UNION CAMP CORP	, ,,,,	no date on record FEB 05, 1982 DEC 04, 1981 JAN 15, 1982
WALGREEN LABS INC WRIGHT COATING INC	WGI WC1	no date on record MAY 16, 1986

INDID	CUNLI
AC1	775.
APC	4087.
BHI	20.
BLS	290.
BO1	1000.
BOW	49.
BRD	1040.
CLS	240.
CMC	1055.
DMC	122.
DPU	105.
EKW	1684.
FB1	706.
GBP	102.
GCC	4.
GEO	587.
HAV	8.
HER	121.
HPC	65.
INM	2.
JRC	1427.
KC1	290.
KC2	32.
KEP	15.
KMF	201.
KSC	280.
LAK	117.
LRE	93.
LSI	40.
PN1 PN2	******
PN3	*****
PN4	*****
PNC PNI	1155.
PSC SAD	10. 15. 1. 3. 35. 28.
SCM UCC	1.
WC1	35.
WGI	28.
	15804.

TOTAL



BASIC STATISTICS FOR CUMET									
Number of	umber of data points: 1. Originally selected 44 2. That were missing 8 3. That were used 36								
Maximum Minimum Median Mean Sum	4087.0000 1.0000 105.0000 439.0000 15804.0000		Standard devi Variance Standard erro Skewness Kurtosis		775.3391 601150.6857 129.2232 3.0486 10.9624				





DEPARTMENT OF PUBLIC 111,1 11

March 14, 1988

Mr. Paul Zugger, Chief Surface Water Quality Section Michigan Department of Natural Resources Stevens T. Mason Building P. O. Box 30028 Lansing, MI 48909

Dear Mr. Zugger:

The NPDES permit for Kalamazoo includes a special condition involving a long-term water quality based effluent limit (LTWQBEL) on PCB compounds. Part of this special condition requires that a long-term compliance plan be developed by the City of Kalamazoo and submitted by January 1, 1987. This compliance plan, submitted to your office in late 1986 included provisions for bioaccumulation techniques as a means of determining progress toward the This concept was developed during discussions with you and your staff in the summer of 1986. It is our understanding that an agreement was reached at that time that bioaccumulation on plant effluent was adequate to demonstrate progress toward the PCB limit of $1.2 \times 10^{-5} \text{ ug/L}$. It was (and still is) our contention that the powdered activated carbon system will effectively remove PCBs from the liquid phase and prevent their discharge in The analysis of fish tissue in the bioaccumulation study would provide a significantly improved level of detection and level of quantitation. agree with your staff that these analyses cannot indicate PCB concentrations at the permit level with today's analytical technology.

Mr. Paul Zugger March 14, 1988 Page 2

Your staff is requiring that we establish a PCB "target" concentration for industrial dischargers which, if exceeded, would trigger investigation and source control measures. We are proposing to set this target concentration at the level of quantitation for bioaccumulation of PCBs in aquatic specimens performed annually on our plant effluent. If PCBs are detected in the bioaccumulation studies, we will perform investigations and take remedial actions if necessary. In addition, we will impose a PCB limit on potential PCB dischargers at their discharge to the sewer system at the level of quantitation. These industries will be sampled semi-annually. If PCBs are present in quantitative levels in their effluent, they would be given the choice of two options. Option 1 would require extensive site investigation and, if needed, source control measures. Option 2 would require that the industry fund a bioaccumulation study on Kalamazoo Water Reclamation Plant effluent in an effort to demonstrate that their PCB discharge was removed from the waste stream by the PACT system and was not allowed to "pass through" untreated.

It is our feeling that this plan goes a long way toward meeting the long-term goal of 1.2 x 10^{-5} ug/L. As detection levels are reduced due to technological advances, we will eventually reach the goal.

A long-term compliance plan (revised March 10, 1988) which reflects the above described modifications is attached. The requirements of Ms. Linda Koivuniemi's letter to me dated January 14, 1988 have been addressed in this letter and the attached plan.

If you have any questions concerning this matter, do not hesitate to contact me.

Sincerely.

Daniel J. Starkey, P.E., General Superintendent

d

attachs

c B. Minsley

R. Amundson

F. Morley

File V

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LTWQBEL ON PCB

REVISED 3/10/88

INTRODUCTION

The Kalamazoo NPDES Permit #MI0022399, Part I, Section A 3., a. requires the development of a long-term compliance plan for achieving the long-term water quality based effluent limit (LTWQBEL) for PCB. The Water Quality Group, Industrial Services Section, has been assigned the responsibility for this area of work within the Department of Public Utilities. Contact persons for the status of the work are Bruce Merchant, Industrial Services Supervisor, Rohel Amundson, Water Quality General Supervisor and Daniel Starkey, General Superintendent.

INDUSTRIAL USERS SURVEY

As a part of the development of the industrial pretreatment program (IPP), a survey was sent to all industrial users in the service area. The survey contained a list of chemicals which combined the MDNR critical materials register and the EPA priority pollutant list. Survey respondents were required to report what chemicals from the list were used or stored at their facilities. Seven industries reported that PCBs were stored at their facilities. One industry reported that it discharged PCBs to the sanitary sewer.

WATER RECLAMATION PLANT INFLUENT AND EFFLUENT ANALYSIS FOR PCBs

Kalamazoo Water Reclamation Plant (KWRP) influent was analyzed for priority pollutants on two occasions in February of 1985. PCBs were not detected either time. Beginning in October of 1985, influent and effluent were analyzed once a week for six consecutive weeks for several metals and organic compounds including PCBs. On one occasion during the six week monitoring program, PCB was noted to be present in the effluent at a level of detection - 0.1 ug/L.

RESIDUALS ANALYSIS

Samples of incinerator ash and carbon regeneration ash were collected on April 29, 1986 and May 6, 1986 and analyzed for several parameters including PCBs. PCBs were not detected in any of the samples. All KWRP residual solids were tested for PCBs on September 9, 1987 and again, no PCBs were found.

FOLLOW-UP ON POTENTIAL DISCHARGERS

During 1987 follow-up was conducted on the industrial users which indicated in their survey responses that they either store or discharge PCBs. For those industries which have a potential to discharge PCBs, samples were collected quarterly and analyzed for PCBs. It is proposed that semi-annual testing for PCBs be performed on potential PCB dischargers.

October 28, 1987

Blanagor

DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N Harrison Kalamazoo, Michigan 49007-2565 (616) 385-8157

Ms. Linda Koivuniemi, Enviromental Quality Analyst Surface Water Quality Division Michigan Department of Natural Resources Plainwell District Headquarters P.O. Box 355 621 N. Tenth Street Plainwell, Michigan 49080

Dear Ms. Koivuniemi:

Attached is a revised long term compliance plan submitted in accordance with our NPDES permit and our meeting of October 13, 1987. You will note that this revised plan includes source control and reduction contingency measures as was agreed in our meeting.

Thank you for your continued cooperation in this matter. Please do not hesitate to contact me if you have any questions.

Sincerely,

Daniel J. Starkey, P.E., General Superintendent

b

attach

c B. Minsley R. Amundson File

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LITWQBEL ON PCB

REVISED 3/10/88 - 2 -

COMPLIANCE PROGRAM OUTLINE

Phase 1: PCB Source Identification

This phase has been completed with the Industrial User Survey. This is described in greater detail on the first page of this report. Semi-annual sampling will continue for those industries which have indicated that they have the potential to discharge PCBs to our system.

Phase 2: Bioaccumulation Studies

An initial bioaccumulation study will be conducted on KWRP effluent using approved test protocols. The proposed schedule for this study follows:

May 1, 1988

- Bioaccumulation study plan submitted to MDNR for review and approval.

September 1988/April 1989 - Initial bioaccumulation study.

Phase 3: Source Control Measures

- A. The detection of PCBs at the level of quantitation (LOQ) in the annual bioaccumulation studies performed on KWRP effluent will trigger detailed site inspections of all potential PCB dischargers to identify possible source control or reduction measures. Possible pretreatment restrictions for the specific purpose of PCB reduction may be imposed on industries if the follow-up inspections reveal PCB discharges.
- B. The detection of PCBs at the LOQ in the semi-annual analysis of potential PCB discharger wastewater effluent would require either one of two options as described below. The discharger would select the preferred option:
 - Option 1: Site inspections to identify possible source control or reduction measures would be conducted by KWRP staff. Pretreatment restrictions for PCB reduction would be imposed if this inspection reveals PCB dischargers.
 - Option 2: The PCB discharger would fund a bioaccumulation study on KWRP effluent. If the results of the study indicate that PCB's are not present in quantitative levels, no further action would be taken. If PCBs are detected in quantitative levels, site inspections and possible pretreatment restrictions would apply (Option 1).

Prepared by: Daniel J. Starkey

Date: March 10, 1988

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LTWQBEL ON PCB

REVISED 10/28/87

INTRODUCTION

The Kalamazoo NPDES Permit #MI0022399, Part I, Section A 3., a. requires the development of a long term compliance plan for achieving the long-term water quality based effluent limit (LTWQBEL) FOR PCB. The Water Quality Group, Industrial Services Section, has been assigned the responsibility for this area of work within the Department of Public Utilities. Contact persons for the status of the work are Bruce Merchant, Industrial Services Supervisor, Rohel Amundson, Water Quality General Supervisor, and Daniel Starkey, General Superintendent.

INDUSTRIAL USERS SURVEY

As a part of the development of the Industrial Pretreatment Program (IPP), a survey was sent to all industrial users in the service area. The survey contained a list of chemicals which combined the MDNR Critical Materials Register and the EPA Priority Pollutant list. Survey respondents were required to report what chemicals from the list were used or stored at their facilities. Seven industries reported that PCBs were stored at their facilities. One industry reported that it discharged PCBs to the sanitary sewer.

WATER RECLAMATION PLANT INFLUENT AND EFFLUENT ANALYSIS FOR PCB's

Kalamazoo Water Reclamation Plant (KWRP) influent was analyzed for priority pollutants on two occasions in February of 1985. PCB's were not detected either time. Beginning in October of 1985, influent and effluent were analyzed once a week, for six consecutive weeks, for several metals and organic compounds, including PCBs. On one occasion during the six week monitoring program, PCB was noted to be present in the effluent at a level of detection; 0.1 ug/l.

RESIDUALS ANALYSIS

Samples of incinerator ash and carbon regeneration ash were collected on April 29, 1986 and May 6, 1986 and analyzed for several parameters, including PCBs. PCBs were not detected in any of the samples. All KWRP residual solids were tested for PCBs on September 9, 1987 and again, no PCBs were found.

FOLLOW-UP ON POTENTIAL DISCHARGERS

During 1987 follow-up was conducted on the industrial users which indicated in their survey responses that they either store or discharge PCBs. For those industries which have a potential to discharge PCBs, samples were collected quarterly, and analyzed for PCBs. It is proposed that semi-annual testing for PCBs be performed on potential PCB dischargers.

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LTWQBEL ON PCB REVISED 10/28/87

- 2 -

COMPLIANCE PROGRAM OUTLINE

Phase 1: PCB Source Identification

This phase has been completed with the Industrial User Survey. This is described in greater detail on the first page of this report. Semi-annual sampling will continue for those industries which have indicated that they have the potential to discharge PCBs to our system.

Phase 2: Bioaccumulation Study

A bioaccumulation study will be conducted on KWRP effluent using approved test protocols. The proposed schedule for this study follows:

December 31, 1987 - Bioaccumulation study plan submitted to MDNR for review and approval.

May 1988/April 1989 - Bioaccumulation study.

Phase 3: Source Control Measures

Phase three (3) will be implemented only if the bioaccumulation test specimens indicate that PCBs are present at detectable levels. This will involve a follow-up analysis of all PCB sources including:

- 1. Detailed site inspections of all potential PCB dischargers to identify possible source control or reduction measures.
- 2. Possible pretreatment restrictions for the specific purpose of PCB reduction may be imposed on industries if the follow-up inspections reveal PCB discharges.
- 3. A program for the purpose of identifying other, unknown sources of PCB discharges would be initiated.

Prepared by: Daniel J. Starkey

Date: October 28, 1987

) 6-88/9 DRAFT

1.0 EXECUTIVE SUMMARY

The lower Kalamazoo River has been targeted as an Area of Concern due to contamination of fish with polychlorinated biphenvls (PCBs). The Area of Concern includes the Kalamazoo River from Calkins Dam to Lake Michigan, the area of the river which is open to fish migration from Lake Michigan. As a result of the PCB contamination, a fish consumption advisory has been issued by the Michigan Department of Public Health. The PCB contamination and fish consumption advisory has been identified as the impaired use in the Area of Concern.

The specific goals of the Remedial Action Plan are to 1) as a minimum, reduce fish PCB concentration to levels which will eliminate the need for a fish consumption advisory, and 2) as a long term goal, reduce human exposure of PCBs to acceptable levels. These goals specifically translate to 1) fish tissue PCB levels less than 2.0 mg/kg and 2) water column PCB concentrations of 0.012 ng/1, respectively.

Concentrations of PCBs in fish vary depending upon the species, but generally the most contaminated fish is the carp, with an average total PCB concentration of 3.46 mg/kg in 1986. Ongoing fish sampling and analyses has found no significant decline in fish PCB concentrations with time, thereby indicating the need for further remedial actions.

Water PCB concentrations in the Area of Concern are generally in the range of 40-80 ng/l (parts per trillion). Sediment total PCB concentrations are usually less than 1.0 mg/kg (part per million).

The total PCB load to Lake Michigan from the Kalamazoo River has been estimated to be 217 pounds per year. The Kalamazoo River loading accounts for about 13% of the total load and 30% of the tributary/point source load to Lake Michigan.

The principle source of PCB contamination has been identified as the contaminated sediments in the Kalamazoo River and Portage Creek upstream of the Area of Concern. The mass of PCB contained in these sediments has been estimated to be over 230,000 pounds. These sediments continue to erode, resuspend or dissolve PCBs into the water column and be transported downstream.

Since PCBs were identified as a problem in 1971, several actions have been taken to improve conditions (Table ES-I). The direct discharge of PCBs has been substantially reduced due to the PCB ban, originally under Michigan law and now nationwide under the Toxic Substances Control Act. The direct discharge of PCBs is not authorized in any of the NPDES permits for the Kalamazoo River. A specific requirement to reduce the discharge of PCBs is included in the City of Kalamazoo's and Otsego's NPDES permits. Both cities have submitted a long term PCB reduction plan to the Michigan Department of Natural Resources as fulfillment of this requirement.

To address the remaining problem of sediment PCB contamination affecting about 80 miles of the Kalamazoo River, the Michigan Department

DRAFT

TABLE ES-1

Kalamazoo River PCB Actions

<u>Date</u>	Action
1971 -	PCB problem identified in the Kalamazoo River and Portage Creek
1972	Follow-up studies on Portage Creek
1974	NPDES discharge permit system initiated
1976	Basinwide study on the Kalamazoo River, TSCA enacted (PCB ban)
1977	Fish consumption advisory issued for Kalamazoo River
1978	Fish contaminant monitoring
1981	Fish contaminant, water, sediment monitoring
1983	Fish contaminant, water, sediment monitoring Kalamazoo River designated as "Area of Concern" by the International Joint Commission
1984	Kalamazoo River listed on initial State Act 307 list, Feasibility Study begun
1986	Feasibility Study completed
1987	Superstructure removed on DNR dams; Trowbridge, Plainwell, Otsego cleanup design begun; lawsuit filed on Portage Creek/Bryant Mill Pond cleanup; followup studies on impounded areas/sludge disposal areas
1988	Trowbridge, Plainwell, Otsego cleanups to begin; Feasibility Study for the Kalamazoo River in the Battle Creek area begins; Remedial actions begin at the Willow Boulevard site
1989	Plainwell, Otsego, Trowbridge cleanups completed Feasibility Study for Battle Creek area completed

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION THOMAS J ANDERSON MARLENE J FLUHARTY KERRY KAMMER O STEWART MYERS DAVID D OLSON RAYMOND POUPORE



JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

David F. Hales, Director
District 12 Headquarters
P.O. Box 355, Plainwell, Michigan 49080

June 9, 1988

Mr. Daniel J. Starkey General Superintendent Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, Michigan 49007

Dear Mr. Starkey:

SUBJECT: Kalamazoo Water Reclamation Plant

Term Compliance, PCB Long

The Surface Water Quality Division, Great Lakes and Environmental Assessment Section has completed their review of the above referenced plan. They recommend that the plan be approved under the condition that the following modifications are incorporated:

- 1. The term "method detection level" (MDL) should be substituted for the term "level of quantitation" (LOQ) at all points in the plan where the latter term is used.
- 2. Phase 3: Source Control Measures B. Option 2 should be modified to read "The PCB discharger would fund a bioaccumulation study on KWRP effluent. If the results of the study indicate that PCB's are not present in effluent exposed fish tissue at or above the MDL, no further action would be taken. If PCB's are detected at or above the MDL, site inspections and possible pretreatment restrictions would apply (Option 1).
- 3. The term "method detection level" should be defined in the plan. The phrase "The MDL is defined in Appendix B to Part 136, Federal Register, Volume 49, No. 209, October 26, 1984, pp. 43430-31" would be considered acceptable.

Please provide this office with a copy of the final approved plan that includes these modifications no later than July 9, 1988.



Mr. Daniel J. Starkey June 8, 1988 Page 2

Feel free to call me if you have any questions or comments.

Sincerely,

SURFACE WATER QUALITY DIVISION

Gregory A. Danneffel Plainwell District

616-685-9886

GAD/cmb

cc: G. Saalfeld, GLEAS, SWQD, Lansing

A. McCrae, Permits, SWQD, Lansing



March 14, 1988

Mr. Paul Zugger, Chief Surface Water Quality Section Michigan Department of Natural Resources Stevens T. Mason Building P. O. Box 30028 Lansing, MI 48909

Dear Mr. Zugger:

The NPDES permit for Kalamazoo includes a special condition involving a long-term water quality based effluent limit (LTWQBEL) on PCB compounds. Part of this special condition requires that a long-term compliance plan be developed by the City of Kalamazoo and submitted by January 1, 1987. This compliance plan, submitted to your office in late 1986 included provisions for bioaccumulation techniques as a means of determining progress toward the LTWQBEL. This concept was developed during discussions with you and your staff in the summer of 1986. It is our understanding that an agreement was reached at that time that bioaccumulation on plant effluent was adequate to demonstrate progress toward the PCB limit of 1.2×10^{-5} ug/L. It was (and still is) our contention that the powdered activated carbon system will effectively remove PCBs from the liquid phase and prevent their discharge in The analysis of fish tissue in the bioaccumulation study would our effluent. provide a significantly improved level of detection and level of quantitation. agree with your staff that these analyses cannot indicate PCB concentrations at the permit level with today's analytical technology.

Mr. Paul Zugger March 14, 1988 Page 2

Your staff is requiring that we establish a PCB "target" concentration for industrial dischargers which, if exceeded, would trigger investigation and source control measures. We are proposing to set this target concentration at the level of quantitation for bioaccumulation of PCBs in aquatic specimens performed annually on our plant effluent. If PCBs are detected in the bioaccumulation studies, we will perform investigations and take remedial actions if necessary. In addition, we will impose a PCB limit on potential PCB dischargers at their discharge to the sewer system at the level of quantitation. These industries will be sampled semi-annually. If PCBs are present in quantitative levels in their effluent, they would be given the choice of two options. Option 1 would require extensive site investigation and, if needed, source control measures. Option 2 would require that the industry fund a bioaccumulation study on Kalamazoo Water Reclamation Plant effluent in an effort to demonstrate that their PCB discharge was removed from the waste stream by the PACT system and was not allowed to "pass through" untreated.

It is our feeling that this plan goes a long way toward meeting the long-term goal of 1.2×10^{-5} ug/L. As detection levels are reduced due to technological advances, we will eventually reach the goal.

A long-term compliance plan (revised March 10, 1988) which reflects the above described modifications is attached. The requirements of Ms. Linda Koivuniemi's letter to me dated January 14, 1988 have been addressed in this letter and the attached plan.

If you have any questions concerning this matter, do not hesitate to contact me.

Sincerely,

Daniel J. Starkey, P.E., General Superintendent

d

attachs

c B. Minsley

R. Amundson

F. Morley

File

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LTWOBEL ON PCB

REVISED 3/10/88

INTRODUCTION

The Kalamazoo NPDES Permit #MI0022399, Part I, Section A 3., a. requires the development of a long-term compliance plan for achieving the long-term water quality based effluent limit (LTWQBEL) for PCB. The Water Quality Group, Industrial Services Section, has been assigned the responsibility for this area of work within the Department of Public Utilities. Contact persons for the status of the work are Bruce Merchant, Industrial Services Supervisor. Rohel Amundson, Water Quality General Supervisor and Daniel Starkey, General Superintendent.

INDUSTRIAL USERS SURVEY

As a part of the development of the industrial pretreatment program (IPP), a survey was sent to all industrial users in the service area. The survey contained a list of chemicals which combined the MDNR critical materials register and the EPA priority pollutant list. Survey respondents were required to report what chemicals from the list were used or stored at their facilities. Seven industries reported that PCBs were stored at their facilities. One industry reported that it discharged PCBs to the sanitary sewer.

WATER RECLAMATION PLANT INFLUENT AND EFFLUENT ANALYSIS FOR PCBs

Kalamazoo Water Reclamation Plant (KWRP) influent was analyzed for priority pollutants on two occasions in February of 1985. PCBs were not detected either time. Beginning in October of 1985, influent and effluent were analyzed once a week for six consecutive weeks for several metals and organic compounds including PCBs. On one occasion during the six week monitoring program, PCB was noted to be present in the effluent at a level of detection - 0.1 ug/L.

RESIDUALS ANALYSIS

Samples of incinerator ash and carbon regeneration ash were collected on April 29, 1986 and May 6, 1986 and analyzed for several parameters including PCBs. PCBs were not detected in any of the samples. All KWRP residual solids were tested for PCBs on September 9, 1987 and again, no PCBs were found.

FOLLOW-UP ON POTENTIAL DISCHARGERS

During 1987 follow-up was conducted on the industrial users which indicated in their survey responses that they either store or discharge PCBs. For those industries which have a potential to discharge PCBs, samples were collected quarterly and analyzed for PCBs. It is proposed that semi-annual testing for PCBs be performed on potential PCB dischargers.

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LTWQBEL ON PCB

REVISED 3/10/88

- 2 -

COMPLIANCE PROGRAM OUTLINE

Phase 1: PCB Source Identification

This phase has been completed with the Industrial User Survey. This is described in greater detail on the first page of this report. Semi-annual sampling will continue for those industries which have indicated that they have the potential to discharge PCBs to our system.

Phase 2: Bioaccumulation Studies

An initial bioaccumulation study will be conducted on KWRP effluent using approved test protocols. The proposed schedule for this study follows:

May 1, 1988

- Bioaccumulation study plan submitted to MDNR for review and approval.

September 1988/April 1989 - Initial bioaccumulation study.

Phase 3: Source Control Measures

- A. The detection of PCBs at the level of quantitation (LOQ) in the annual bioaccumulation studies performed on KWRP effluent will trigger detailed site inspections of all potential PCB dischargers to identify possible source control or reduction measures. Possible pretreatment restrictions for the specific purpose of PCB reduction may be imposed on industries if the follow-up inspections reveal PCB discharges.
- B. The detection of PCBs at the LOQ in the semi-annual analysis of potential PCB discharger wastewater effluent would require either one of two options as described below. The discharger would select the preferred option:
 - Option 1: Site inspections to identify possible source control or reduction measures would be conducted by KWRP staff.

 Pretreatment restrictions for PCB reduction would be imposed if this inspection reveals PCB dischargers.
 - Option 2: The PCB discharger would fund a bioaccumulation study on KWRP effluent. If the results of the study indicate that PCB's are not present in quantitative levels, no further action would be taken. If PCBs are detected in quantitative levels, site inspections and possible pretreatment restrictions would apply (Option 1).

Prepared by: Daniel J. Starkey

Date: March 10, 1988



Zimpro systems Passavant equipment Hydro-Clear® filters

January 18, 1988

Kalamazoo Wastewater Treatment Plant 1415 North Harrison Street Kalamazoo, MI 49007

Attention: Mr. Dan Starkey

Dear Dan:

You had asked whether we or any of our other customers had any experience in treating 1,2 dichloroethane (DCA) or PCB with the PACT - wet air regeneration system. Our experience shows that both compounds are treatable in the PACT process.

In treating a chemical waste stream containing various organics the PACT system was able to treat 640 ppb of 1,1 DCA to < 1 ppb. The waste stream treated had an influent COD = 11,780 mg/l; PACT system aeration time, SRT and carbon dose were 2.3 days, 5.8 days and 2,270 mg/l, respectively. Also, DuPont has published information on 1,2 DCA removal, noting that 19 ppb is being removed to < 1 ppb in their PACT system. Bofors-Nobel (now Lomac) also reports 420 ppb 1,2 DCA in their groundwater, however, no specific removal is cited. In these cases a fairly stable level of the DCA is being treated.

We would suspect DCA would be better handled by the PACT system if it could be added to the system on an equalized basis rather than in "slugs". Piloting is recommended as a way to ascertain impact on removal performance. In this manner inlet concentrations can be controlled and appropriate DCA spiking can be accomplished.

Regarding PCB treatment, we know PCB's are easily captured in the PACT system and are removed with the spent solids. Published Occidental Chemical data is enclosed. Nine (9) ppb of PCB's were being treated by batch activated sludge and PACT systems. No removal of PCB was found in the activated sludge system; complete PCB removal occurred in the PACT system with non-detectable levels of PCB in PACT effluent. The exact fate of that compound in wet air regeneration, however, is not clear. Testing has shown concentrated material to be oxidizable to levels as high as 90%. We are confident that no PCB is solubilized in wet air regeneration, but are uncertain as to what level, if any, would be found in the separated ash that would eventually go to disposal. Since any

Kalamazoo Wastewater Treatment Plant January 18, 1988 Page...2

investigations you may need to do with PCB's may not be allowable, I offer the contract services of our laboratory to you to do the work for you and your industrial client(s). Zimpro/Passavant Inc. is a permitted TSD facility (Wis/EPA Registration No. WID 044303114 and can handle the investigatory levels of PCB's you are concerned with.

If you have questions, feel free to call.

Sincerely yours,

ZIMPRO/PASSAVANT INC.

John A. Meidl

PACT Product Manager

JAM/jat

Enclosures

cc: W. M. Copa

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION THOMAS J ANDERSON MARLENE J FLUHARTY KERRY KAMMER O STEWART MYERS DAVID DO LISON RAYMOND POLIPORE



JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

GORDON E GUYER, Director

District 12 Headquarters P.O. Box 355, Plainwell, Michigan 49080

January 14, 1988

Daniel J. Starkey, P E General Superintendent Kalamazoo Water Reclamation Plant 1415 North Harrison Kalamazoo, Michigan 49007-2567

> RE: Long-Term PCB Compliance Plan Addendum Due February 12, 1988

Dear Mr. Starkey:

We have reviewed the long-term PCB (polychlorinated biphenyl) compliance plan dated October 28, 1987. At our October 13, 1987 and January 4, 1988 meetings, we discussed the plan requirements. The following items result from our understanding of the agreements reached at our two meetings:

- 1. The City of Kalamazoo will establish and submit to this office a PCB "target" or "warning" concentration for industrial users which, if exceeded, Kalamazoo will conduct investigation and remediation and, if needed, source control measures.
- 2. Discharge monitoring of potential industrial sources of PCBs should continue on a semiannually basis.
- 3. In Phase 3 (Source Control Measures) of the compliance plan, item 2 should be modified to state that restrictions for PCB reduction will be imposed on specific industries if the bioaccumulation tests indicate that PCBs are present in the Kalamazoo Water Reclamation Plant discharge at levels greater than 0.012 ng/l. However, detection of PCBs in the periodic sampling of potential dischargers above the "target" level should also stimulate investigation and remediation.

Please include the above items in a long-term PCB compliance plan addendum and submit the addendum to this office by February 12, 1988.

R1026-1 1/86 Daniel J. Starkey, P.E. Kalamazoo Water Reclamation Plant January 14, 1988 Page 2 of 2

Thank you for your continuing cooperation. If you have any questions, please contact William Creal (517)335-4181 or this office.

Sincerely,

SURFACE WATER QUALITY DIVISION

Linda Kowineni

Linda Koivuniemi Plainwell District (616) 685-9886

LK:clw

Enclosure: Attendance List Jan. 4, 1988 Meeting

cc: P. Blakeslee, SWQD, Region III Supervisor

W. Creal, SWQD, GL&EAS

F. Morley, SWQD, Plainwell

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION THOMAS J ANDERSON MANLENE J FLUHARTY KERRY KAMMER O STEWART MYERS DAVID O OLSON RAYMOND POUPORE



JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

GORDON E GUYER Director

David F. Hales, Director District 12 Headquarters P.O. Box 355, Plainwell, Michigan 49080

June 9, 1988

Mr. Daniel J. Starkey General Superintendent Kalamazoo Water Reclamation Plant 1415 N. Harrison Kalamazoo, Michigan 49007

Dear Mr. Starkey:

SUBJECT: Kalamazoo Water Reclamation Plant

Term Compliance, PCB Long Term Compliance Plan

The Surface Water Quality Division, Great Lakes and Environmental Assessment Section has completed their review of the above referenced plan. They recommend that the plan be approved under the condition that the following modifications are incorporated:

- 1. The term "method detection level" (MDL) should be substituted for the term "level of quantitation" (LOQ) at all points in the plan where the latter term is used.
- 2. Phase 3: Source Control Measures B. Option 2 should be modified to read "The PCB discharger would fund a bioaccumulation study on KWRP effluent. If the results of the study indicate that PCB's are not present in effluent exposed fish tissue at or above the MDL, no further action would be taken. If PCB's are detected at or above the MDL, site inspections and possible pretreatment restrictions would apply (Option 1).
- 3. The term "method detection level" should be defined in the plan. The phrase "The MDL is defined in Appendix B to Part 136, Federal Register, Volume 49, No. 209, October 26, 1984, pp. 43430-31" would be considered acceptable.

Please provide this office with a copy of the final approved plan that includes these modifications no later than July 9, 1988.

111025 1

Mr. Daniel J. Starkey June 8, 1988 Page 2

Feel free to call me if you have any questions or comments.

Sincerely,

SURFACE WATER QUALITY DIVISION

Gregory A. Danneffel Plainwell District

616-685-9886

GAD/cmb

cc: G. Saalfeld, GLEAS, SWQD, Lansing

A. McCrae, Permits, SWQD, Lansing

MICHIGA DEPARTMENT OF NATURAL F OURCES

INTEROFFICE COMMUNICATION

December 11, 1987

TO: Linda Koivuniemi, Plainwell, Surface Water Quality Division

FROM: William Creal, Great Lakes & Environmental Assessment Section

Surface Water Quality Division

SUBJECT: Kalamazoo POTW Long-Term PCB Compliance Plan

We have reviewed the October, 1987 PCB compliance plan submitted by the City of Kalamazoo and have the following comments:

- 1. At our October 13 meeting Kalamazoo agreed to establish a PCB "target" concentration for industrial users which, if exceeded, the city would work with the user to implement source control measures.
- 2. Monitoring of potential industrial sources of PCBs should continue on a quarterly basis as proposed by the City at our October 13 meeting.
- 3. In Phase 3 (Source Control Measures) of the compliance plan, item 2 should be modified to state that restrictions for PCB reduction will be imposed on industries if the bioaccumulation tests indicate that PCBs are present in the discharge at levels greater than 0.012 ng/1. However, detection of PCB's in the periodic sampling of potential dischargers above the "target" level should also stimulate source control measures.

These comments result from our understanding of the agreements reached at the October 13, 1987, meeting with the City of Kalamazoo.

cc: William McCracken, Permits
J. Grant/GLEAS Files

BC

RECEIVED
DEC 16 1987

SWQD-Plainwell

Treatment of a Landfill Leachate in Powdered Activated Carbon Enhanced Sequencing Batch Bioreactors

Wei-chi Ying, Robert R. Bonk, Stanley A. Sojka

Occidental Chemical Corporation, Grand Island Technology Center, Grand Island, NY 14072

Addition of powdered activated carbon (PAC) significantly improved treatment of a chemical waste landfill leachate in sequencing batch bioreactors (SBRs). Concentrations for many of the monitored halogenated organic compounds in the effluent were below their respective detection limits. Excellent treatment efficiency was achieved under a variety of operating conditions: wastewater composition, feed rate, hydraulic retention time, organic loading, PAC dosages, biomass and PAC concentrations in the bioreactors. The PAC-SBR performance was unaffected when wastewater feeding was suspended during weekends and holidays. The PAC-SBR treatment cost is much lower than either that of the conventional granular activated carbon adsorption technology or the two-stage process of biodegradation and carbon treatment.

INTRODUCTION

The Hyde Park Landfill site is located in an industrial complex in the extreme northwest corner of the Town of Niagara, New York (Figure 1). The site is roughly triangular in shape and occupies approximately 6.1 hectares. The Hyde Park Landfill was used from 1953 to 1975 as a disposal site for an estimated 73000 metric tons of chemical waste, including halogenated organics. A compacted clay

Ontario
Canada
Power
Reservoir
Reservoir
Airport
Niagara Plant
Niagara Falls
Niagara River
North
Tonawanda

Figure 1. Location of the Hyde park Landfill site.

cover was placed over the landfill in 1978, and a tile leachate collection system was installed around the perimeter in 1979.

The leachate is collected in a sump, at the end of the tile system, and is then pumped to a two-compartment lagoon. The contents of the first lagoon compartment are allowed to separate, and the supernatant overflows by gravity into the second compartment. From here it is trucked to the treatment site located at the nearby Niagara Plant. The leachate production rate for the last three years averaged about 230 cu m per week. Additional leachate collection systems at Hyde Park and other sites will soon be constructed, and the total volume of wastewaters to be treated will increase substantially. At the treatment site, the trucked leachate is mixed with plant wastewaters and is stored in four storage tanks, each about 90 cu m in capacity. After pH adjustment, sometimes necessary to insure that pH of the plant discharge is between 5.0 and 10.0, and settling of suspended solids, the combined wastewater is pumped through an on-line 50µ bag filter, and the filtrate then is treated in a two-stage activated carbon adsorption system. In the first stage of treatment, the wastewater downflows through two smaller adsorbers (900 kg of Calgon F-300 each) in series for removal of carry-over organic liquids. Dissolved organic compounds are removed in the second stage adsorption system consisting of three larger serial adsorbers (9000 kg of Calgon Service carbon each). The effluent, which meets the treatment criteria (see Table 1), is discharged to a municipal sewer.

The present wastewater treatment by the conventional adsorption technology, although producing a suitable quality effluent, is not the best long-term solution. The adsorption system would have to be substantially expanded

TABLE 1 DISCHARGE LIMITS OF FINAL EFFLUENT

Parameter	Maximum concentration*
рН	5-10
Phenol	1 mg/L
TOC (excluding Methanol), or	300 mg/L
TOC (total)	1000 mg/L
Trichloroethylene	10 ug/L
Tetrachloroethylene	10 ug/L
Monochlorobenzene	10 ug/L
Monochlorotoluene	10 ug/L
Benzene	10 ug/L
Trichlorobenzenes	10 ug/L
Tetrachlorobenzenes	10 ug/L
Monochlorobenzotrıfluoride	10 ug/L
Hexachlorocyclobutadiene (C-46)	10 ug/L
Hexachlorocyclopentadiene (C-56)	10 ug/L
Hexachlorocyclohexanes (C-66)	10 ug/L
2, 4, 5-trichlorophenol	10 ug/L
Endosulfan	10 ug/L
Mirex	l ug/L
2, 3, 7, 8-tetrachlorodibenzo-p-dioxin	not detectable

a Except for pH

to handle the expected increase in wastewater volume The future carbon consumption rate would rise accordingly, the cost forecast for carbon adsorption service alone is about 21 million dollars over the next ten years. Clearly there is a strong economic incentive to explore other treatment technologies. The technical impetus derives from the fact that most persistent organic compounds are readily adsorbed on activated carbon and many of them would eventually be biodegraded given the long holding time in the adsorbed state [1, 2] Addition of powdered activated carbon (PAC) to the aeration tank of an activated sludge system would produce many benefits higher degree of organic removal, better settling sludge with excellent dewaterability, improved nitrification, more resistance to shock loadings of wastewater constituents and/or flowrate [3, 4] In many instances, PAC enhanced biological treatment may produce a high quality effluent comparable to that from two-stage treatment of biodegradation followed by activated carbon adsorption [5] Because of the successful bench- and pilot-scale treatment of Hyde Park leachate in sequencing batch bioreactors (SBRs) and the high adsorptive capacities of activated carbon for the leachate constituents [6], the bio-physicochemical PAC enhanced SBR (PAC-SBR) wastewater treatment technology was selected as a candidate process to best meet the future requirements for leachate disposal

EXPERIMENTAL SECTION

Analytical methods

Extensive efforts were made in this investigation for identification and quantification of constituents of raw, pretreated, SBR-treated, and PAC-SBR treated wastewater samples Measurements for parameters commonly used for characterization of wastewater were made in accordance with the methods given in Standard Methods [7] These parameters include pH (Section 423), total organic carbon (TOC, 505), biological oxygen demand (BOD, 507), chemical oxygen demand (COD, 508A), total dissolved solids (TDS, 209C), suspended solids (SS, 209D), volatile suspended solids (VSS, 209E), orthophosphate phosphorus (PO₄-P, 424F), acid-hydrolyzable phosphorus (acid-P, 424B), total phosphorus (total-P, 424C), ammonia nitrogen (NH₄-N, 417B), nitrate nitrogen (NO₃-N, 418 B), nitrite nitrogen (NO₂-N 419), total kjeldahl nitrogen (TKN, 420 B), dissolved oxygen (DO, 421F), oxygen consumption rate (213A), turbidity (214A), and settled sludge volume (213B) Total organic halide (TOX) was anlayzed by a Dohrmann

DX-20 TOX analyzer using EPA Method 450 1 Concentrations for chlorendic acid (HET acid), phenol benzoic acid, and o-, m-, p-chlorobenzoic acids (CBAs) were estimated by a high performance liquid chromatography method, with a Perkin-Elmer Model 3B adapted for analysis of the wastewater samples [6] Analyses of samples for the compounds listed in Table 1 were performed by Central Science possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses and the second possesses are second possesses are second possesses and ence personnel of Occidental Chemical according to the protocols approved by the New York State Department of Environmental Conservation The standard scintillation counting techniques were employed for measuring 14Clabelled 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin (2, 3, 7, 8-TCDD, from Cambridge Isotope Laboratories, Inc., Woburn, Mass 01801) and polychlorinated biphenyls Aroclor 1254 (PCBs A-1254 from Amershan Corp., Arlington Heights, Ill 60005

Concentration of pollutants in raw leachate and the combined wastewater fluctuated widely over the study period, TOC had a range from 850 to 10000 mg/L and SS from 200 to 2000 mg/L Characteristics of typical raw and pretreated (neutralization, aeration, and sedimentation) leachates are shown in Table 2

Adsorption Isotherms

Adsorption isotherm experiments were performed for testing the adsorptive capacity of PAC, biomass, and pretreatment precipitates for HET acid, 14-C-labelled 2, 3, 7, 8-TCDD and PCBs A-1254 The Freundlich adsorption isotherm model was utilized to correlate the adsorptive capacity (X/M, mg adsorbed/g carbon) with the residual concentration (C₆, ug or mg/L) for estimating the magnitude of organic removal due to adsorption. The Freundlich model has the following form

$$X/M = k \times C_f^{1 n}$$

where k, and 1/n are constants characterizing the adsorption isotherm [8]

Biodegration Study

Soon after the present adsorption treatment began, large populations of bacteria were found in the adsorber effluent Similar observations of bacterial growth in carbon adsorbers were reported [9]. The TOC COD, and concentrations for some major organic constituents of a refrigerated raw leachate sample were found to decrease over time. The rate of concentration reduction increased when the sample was stored at room temperature. The BOD to TOC ratios for several leachate and the combined wastewater samples were all greater than 2, indicating

TABLE 2 CHARACTERISTICS OF TYPICAL RAW AND PRETREATED HYDE PARK LEACHATES

pH 4 3 TOC 3500 COD 10040 BOD 7500 SS 900 VSS 300 TDS 25700 PO ₄ -P <1 Acid-P 3 Total-P 131	7 5 3200 9200 7200
TOC 3500 COD 10040 BOD 7500 SS 900 VSS 300 TDS 25700 PO ₄ -P <1 Acid-P 3	3200 9200
COD 10040 BOD 7500 SS 900 VSS 300 TDS 25700 PO₄-P <1 Acid-P 3	9200
BOD 7500 SS 900 VSS 300 TDS 25700 PO₄-P <1 Acid-P 3	
SS 900 VSS 300 TDS 25700 PO ₄ -P <1 Acid-P 3	-200
VSS 300 TDS 25700 PO₄-P <1 Acid-P 3	1200
TDS 25700 PO₄-P <1 Acid-P 3	80
PO ₄ -P <1 Acid-P 3	40
Acid-P 3	22400
	<1
Total-P 131	3
	92
NH ₄ -N 150	130
TKN 180	160
NO_3-N 20	20
NO_2 -N <5	< 5

a All values except pH are given in mg/L

b. Pretreatment consisted of neutralization with NaOH to a pH of 75 two hours. It aerition and two hours. It longer of settling.

that most organic compour—n these samples were readily biodegradable. Results from studies on bio-utilization of specific organic compounds by bacteria isolated from the Hvde Park Landfill site demonstrated that several strains of bacteria present in the landfill site were capable of metabolizing many of the more persistent leachate constituents [6]. Biological processes were therefore evaluated for treating the combined wastewater before entering the existing activated carbon adsorption system.

SBR biotreatment consists of five sequential steps. FILL REACT, SETTLE, DRAW, and IDLE The wastewater is fed, during FILL, to a tank which contains acclimated activated sludge from the previous cycle. Aeration and mechanical mixing are provided while teeding, or during REACT, to enhance the rate of aerobic biodegradation After the mixed liquor is biologically stabilized, air and mixing are stopped, and clarification takes place in the SETTLE step During DRAW, the clear supernatant is withdrawn from the reactor for direct discharge or if needed, additional treatment. The IDLE period finally completes the SBR cycle. The five SBR steps are often overlapped, and one or two steps may be omitted in a particular treatment cycle. The withdrawal of effluent may start as soon as a clear zone of supernatant is formed and the wastewater feeding may begin immediately after the completion of the DRAW step of the last SBR cycle [10] Many combinations of feeding, aeration, and mixing strategies are possible. The required nutrients are either supplemented to the feed or added directly to the bioreactor The sludge wasting is accomplished by removing a portion of the settled sludge in the DRAW or IDLE step The optimum SBR operating and cycle schedules must be experimentally established for a wastewater to achieve the specific treatment objectives. The SBR biotreatment is essentially a fill-and-draw activated sludge process. Its operation and control for bench-scale experiments are simple, and the requirements for laboratory space and wastewater volumes are small. Relative to the continuous activated sludge process, better comparative study is possible since more parallel SBR units can be operated simultaneously using smaller tanks. It is therefore often the process of choice for study of wastewater treatability [11, 12] The advantages of more complete treatment [13] greater operational flexibility to accommodate changing feed characteristics, intermittent treatment [14], and single tank for biodegradation and sludge separation make the SBR process an attractive technology for treating municipal and industrial was. Afters [15, 16] The successful bench, and pilot-scale investigations already demonstrated that significant carbon saving was possible with SBR biotreatment of leachate before carbon adsorption [6]

PAC-SBR treatment

A feasibility study on PAC-SBR treatment of leachate was conducted to determine whether the improved treatment by simultaneous adsorption and biodegradation in a SBR would produce an acceptable effluent without the post-treatment in a granular activated carbon adsorber This was indeed accomplished with the simple addition of PAC to a SBR, near the end of REACT, operated at a hvdraulic retention time (HRT) of 5 days or less. The PAC dosage, 0.45 g of Westvaco Nuchar SA (PAC A) per daily leachate feed volume of 150 ml was just below the expected carbon requirement of the two-stage SBRadsorption process (0.54 g based on a carbon exhaustion rate of 3 6 g/L for treating a 5000 mg TOC/L leachate and a 90% reduction in the carbon cost due to SBR biotreatment) Table 3 presents the feasibility study results showing significant improvement in effluent quality with the addition of PAC The PAC-SBR effluent continued to be much better than that of the control unit three weeks after the PAC addition was stopped. It was important to note that the removal of the persistent HET acid in the PAC-SBR was consistently more than that predicted by the adsorption isotherm for the SBR-treated leachate [6]. A comprehensive PAC-SBR treatability study program was therefore undertaken to define the PAC requirement and to optimize the bio-physicochemical treatment operations The operating and cycle schedules for the eight 1-L reactors employed in the treatability study program are presented in Table 4, the rourine maintenance, sampling, and monitoring schedule is summarized in Table 5. The schematic drawing of a PAC-SBR used in the feasibility and treatability studies is given in Figure 2

RESULTS AND DISCUSSION

Start-up procedure

About 5 L of return activated sludge (MLSS = 6000 mg/L) from a nearby POTW (Wheatfield, NY) was used to seed a 10-L SBR bioreactor. The SBR was then fed, over a four-day period at an increasing daily feed volume of Hyde Park leachate to 2 Ld. The amount of effluent dis-

TABLE 3 FEASIBILITY STUDY RESULTS OF PAC SBR TREATMENT OF HYDE PARK LEACHATE^{4 b}

Sample	Date	10/9	10/25	11/7	11/15°	11 24	12/1	12/14
Feed	volume	75	150	150	150/225	150	300	275
1 00 0	TOC	10575	5580	5570	5570	3080	840	3210
	TOX	1062	660	640	520	650	141	390
	HET acid	455	335₫	280 ^d	250⁴	320	57	145
	phenol	1553ª				1135	201	780
Control	τοc	417	391	494	436	296	132	184
SBR	TOX	316	267	325	265	243	68	155
effluent	HET acid	270	149	170	231	166	52	125
	phenol	17.5	20		10	10	2 5	12
PAC-SBR ^c	ŤΟC	439	157	164	207	125	120	144
effluent	TOX	319	42	46	88	41	52	134
	HET acid	279	46	28	36	16	38	104
	phenol	7 5	0.5		0.5	0.5	0.5	1 25

a All units were on a 24 hour SBR cycle batch feed. 20 hours of aeration, and 4 hours of settling and idle. Liquid volume after FILL (working volume) was 750 ml. The MLSS of the control SBR was maintained at 10000 mg/L. The biotreatment was performed at the room temperature of 20°C.

b Results are given in ml/day for feed volume and mg/L for all concentrations of the PAC SBR unit received 1.5X the leachate volume fed to the control SBR from 11/12 thru 11/18. This unit was a duplicate control SBR until 10/20 when 4.5 g of PAC A which was presaturated with compounds remaining in the leachate after biotreatment by contacting with a large volume of effluent, was added 0.45 g/d of fresh PAC A was added thereafter until 11/23 when the PAC addition was stopped. The MLSS of the PAC SBR was 14000 mg/L after the first PAC addition, the PAC concentration was maintained at 6000 mg/L by wasting 75 ml of the mixed liquor per day after PAC supplementation.

d. Those samples were not acidited prior to analysis and thus the values shown might be lower than the concentrations at the time of sampling

TABLE 4 Examples of PAC-SBR OPERATING AND CYCLE SCHEDULES

PAC-SBR Units 600 ml working volume, 24-hour cycle, 20°C 4-day hydraulic retention time (25% daily feeding)

	(Love daily rectains)							
Operating Schedule	1C	3 A	3B	4A	4B	6A	6B	6C
Wastewater feed Sterilization of feed Bacterial supplementation Mixed liquor biological suspended solids, mg/L	((10000	(pretreated no no 1000	0)))
Mixed liquor PAC, mg/L PAC inventory, g PAC dose, g/day Mixed liquor wasting, ml/day	0 0 0 VWb	3000 1 8 0 09 30	3000 1 8 0 18 60	4500 2 7 0 135 30	4500 2 7 0 27 60	6000 3 6 0 18 30	6000 3 6 0 18 30	6000 3 6 0 36 60
Time per SBR cycle, hour								
FILL (air & mixing) REACT (air & mixing) SETTLE DRAW IDLE	((((((((((((((((((((6 ¹ 3 0 2 0 7	4 .5⁴)))

a Initial value at the beginning of PAC SBR study it gradually declined with the daily wasting of mixed liquor. The steady state mixed liquor biological solids concentration was dependent on the feed concentration and daily wasting volume

TABLE 5 ROUTINE MAINTENANCE, SAMPLING AND MONITORING SCHEDULE FOR PAC-SBRS

	Mondav	Tuesday	Wednesday	Thursdav	Friday
					
pHª	x	x	x	x	x
Turbidity	x		x		x
TOC	x	X	x	x	x
Settled sludge volume	x			x	
Mixed liquor SS/VSS	x/x			x	
Slude wasting ^b		X			x
Effluent SS/VSS		x/x			x
NH₄-N		x			x
NO ₂ -N/NO ₃ -N		x			x
PO ₄ -P		x			x
TOX, HET acid, phenol, benzoic a	nd				
chlorobenzouc acidsc					

chlorobenzoic acids

charged was about 50% of the daily feed until the full SBR working volume (8 L) was attained Within three weeks, the effluent TOC was stabilized at about 250 mg/L for a leachate feed having a TOC of 3000 mg/L. The biotreatment was accomplished at the room temperature of 20°C in the SBR which was operated under a 24-hr cycle (Table 4) No mass die-off of the seed sludge was observed, and the effluent SS was consistently less than 100 mg/L Successful start-up was accomplished without the use of any supplementary sources of organic carbon [6] When the MLSS increased to about 10000 mg/L, the liquid content of the 10-L SBR was divided evenly to eight 1-L units. A quantity of PAC A which had been presaturated with compounds remaining in the leachate after the biotreatment (by contacting with a large volume of effluent from the 10-L SBR) was then introduced to each PAC-SBR to provide a specified mixed liquor PAC concentration (Table 4) A small dose of PAC was added daily during the treatability study program The leachate feed was prepared by the pretreatment procedure of neutralization, aeration, and sedimentation, ammonium hydroxide and phosphoric acid were supplemented to the leachate feed

by The mixed liquor wasting volume of the control unit was calculated (see Note b in Table 5) to maintain a MLSS concentration of 10000 mg/L c. The PAC-SBR units were fed twice. 12.5% of working volume each time at the beginning and the end of FILL.

d Effluent discharge was accomplished using a 100-ml pipet

Chlorinated compounds listed in Table 1^d

Acid or base was used to maintain pH within 7 0-7 5 after REACT

b The volume of the settled sludge to be wasted each time VW (L) VW = VT × (MLSS1 - MLSS2)/(MLSS1 × TMV/SV) where VT working volume (L) after FILL

TMV - the sample volume used in measuring the settled sluge volume

SV - settled sludge volume after two hours of settling,

MLSS1 mixed liquor suspended solids (mg/L) before wasting

MLSS2 the MLSS to be maintained in the reactor

Tapwater was used for making up the settled sludge volume wasted

One measurement for each batch of new leachate feed, and once every two weeks for all effleunts d One weekly composite sample each from No 3A 3B and 4A

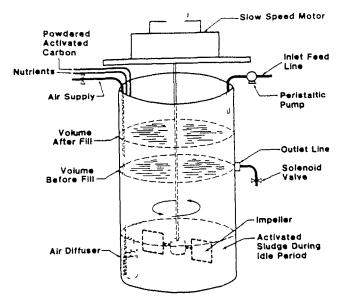


Figure 2 Schematic drawing of a PAC-SBR

to a TOC/NH₄-N/PO₄-P ratio of 150/10/2 which was determined in the earlier study on SBR treatment of leachate [6, 17]

Treatability study results

Table 6 presents the treatment results in terms of reductions in TOC, TOX, HET acid, phenol, benzoic acid, and CBAs, Table 7 presents the reductions in TCDDs, PCBs, and five other halogenated compounds subjecting to the discharge limits (Table 1) The improvements in effluent quality due to the addition of PAC to the control SBR were apparent. Most importantly, the effluent from PAC-SBR 3A, the least PAC-dosed unit, had consistently met the dis-

Jing the entire study period. The PAC sup charge limits plementation rate was less than 4% of the estimated granular activated carbon requirement for treating the raw Hyde Park leachate - 009 vs 37 g per 150 ml daily leachate feed (TOC = 3570 mg/L) [6] The fact that TCDDs and PCBs were totally removed by the PAC-SBR treatment can be explained by the adsorption isotherms for ¹⁴C-labelled 2, 3, 7, 8-TCDD (Figure 3) and PCBs A-1254 (Figure 4) Both the solid precipitates (SS up to 2000 mg/L) produced in the pretreatment steps and biomass in the SBR (MLSS = 10000 mg/L) had contributed to the removal of TCDDs and PCBs. The significantly enhanced removal of these and other persistent halogenated organic compounds in the PAC-SBRs was due to the much higher adsorptive capacities of activated carbon relative to pretreatment precipitates and SBR biomass. The quality of effluents from the PAC-SBRs were much more stable, compared to the control unit (No 1C), when the organic loading to the aeration tank was increased because of higher leachate TOC and/or more daily feed volume This shock loading resistance was attributable to the large inventory of PAC (3000 to 6000 mg/L) in the mixed liquor Nitrification and denitrification were observed in all bioreactors with no aeration during the last two hours of REACT The PAC-SBR treatment can thus accomplish nitrogen removal as well [18]

Intermittent operations

The PAC-SBR treatment performance was nearly unchanged when the feeding was suspended on holidays, Saturday and/or Sunday The REACT period for these units were extended over the weekend, with either continuous or periodic aeration and mixing during the extra time period. This resulted in slightly lower effluent TOC more complete nitrification and/or denitrification. Normal cyclic operation was resumed from Monday through Fri-

TABLE 6 RESULTS OF PAC SBR TREATMENT OF LEACHATE^a

PAC SBR sample	TOC	TOX	HET acid	Phenol	Benzoic acid	m-CBA	p-CBA
Jampie	(mg/L)
Feed	3570	440	150	820	1160	130	160
IC effluent	286	196	102	3	6	20	16
3A effluent	207	141	80	<1	4	5	9
3B effluent	179	114	77	<1	2	4	7
4A effluent	207	130	80	<1	2	10	8
4B effluent	143	83	51	<1	2	5	5
6A & B effluent ^b	179	106	71	<1	2	3	7
6C effluent	121	55	63	<1	2	2	3

a Samples were taken at the end of the treatability study program

TABLE 7 REMOVAL OF TCDDs PCBs and HALOGENATED ORGANIC COMPOUNDS IN PAC SBRs

PAC SBR Sample	TCDDs*	PCBsb (Trichloro- benzenes	C 56	2 4 5 Tri chlorophenol ppb	Endosulfan	Mirex)
1C effluent 3A effluent 3B effluent 4A effluent 6C effluent	15 ND ₀₈ ° ND ₀₈ ND ₀₈	9 ND ₂ ND ₂ ND ₂	68 ND ₁₀ ND ₁₀ ND ₁₀ ND ₁₀	37 ND ₁₀ ND ₁₀ ND ₁₀ ND ₁₀	39 ND ₁₀ ND ₁₀ ND ₁₀	51 ND ₁₀ ND ₁₀ ND ₁₀ ND ₁₀	26 ND ₁ ND ₁ ND ₁ ND ₁

a. 2 3 7 8-TCDD and coeluting isomers

5

b Average of the duplicate units

b Aroclor 1248

c ND, = Not detected at a detection limit of x ppt or ppb

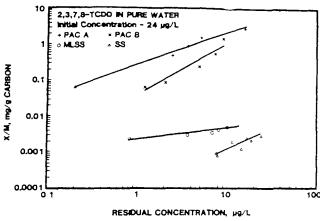


Figure 3 Freundlich adsorption isotherms 14C-labelled 2, 3, 7, 8,-TCDD

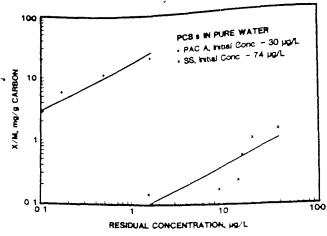


Figure 4 Freundlich adsorption isotherms for 14C labelled PCBs A-1254

day, and the same performance as the 7 days-a-week units was then observed. The ability to operate the PAC-SBRs in this manner would allow for a very flexible treatment schedule

Volatile compounds

Many aromatic and straight-chain halogenated hydrocarbons were present in Hvde Park leachate. Their concentrations were typically less than 5 mg/L, except for chlorotoluenes which occasionally approached 40 mg/L Air stripping was found to be the predominant mechanism for their removals in the aerobic biological treatment system [19] About 99% of the volatile constituents which altogether accounted for about 5% of wastewater TOC, were air-stripped from the feed tank during pretreatment, and

the rest were removed from the PAC-SBRs during aerated FILL and/or REACT These compounds were easily separated from the air by carbon adsorption. With a vapor phase carbon adsorber installed for treating the exhaust gases, no air pollution would result from the PAC-SBR treatment system

Sludge disposal

Depending on the wastewater characteristics, 200 to 2000 mg of pretreatment precipitates per liter of feed were produced by neutralization, aeration, and sedimentation It was mainly ferric hydroxide which included adsorbed organic compounds As much as 62% of HET acid in the raw wastewater was removed by iron precipitation, other constituents were removed to lesser extents. The sludge

TABLE 8 EXPECTED SAVING IN LEACHATE TREATMENT COST WITH PAC SBR PROCESS

Time Penod	Flowrate			Carbon ^b Carbon ^c		Cost Saving ^d	
(months)	(m^3/d)	Loading (Usage kg/d	Saving }	\$/d	\$1000/yr	
l thru 6	95	142	991	961	1590	580	
7 thru 12	295	215	1442	1399	2313	844	
13 thru 18	250	202	1361	1320	2183	796	
19 thru 24	144	170	1170	1135	1877	685	
25 thru 30	144	170	1170	1135	1877	685	
31 thru 36	144	170	1170	1135	1877	685	
37 thru 120	144	170	1170	1135	1877	685	
		1	0-vear Average Savii	ng		\$693 700/vear	

The first 68 m³/d at 1700 mg TOC/L the next 45 m³/d at 1 000 mg TOC/L the rest at 300 mg TOC/L

SBR Treatment System - design TOC loading = 181 kg/d average TOC loading = 173 kg/d

\$/vear

				_
1 Carbon saving			693,700	
2 Operating labor misc costs ^a		(0)
3 Maintenance*		(50,000)
4 Electrical power ^b		,	20 000)
5 Sludge disposal ^c		(25,000)
6 Analytical*		į	23,000)
7 Nutrients and chemicals ^d		(4 600)
	Net Saving	\$ 5	71 000/vea	r

Cost over the expanded adsorption operation required in the near future

b 12 g/L for the first 68 m³/d 6 6 g/L for the next 45 m³/d 1 8 g/L for the rest

^{97%} reduction in carbon exhaustion rate using PAC SBR process d \$1 65/kg carbon All costs are in 1984 U.S. dollars

c. Total słudge production rate... 1.02 g.g. TOC. dewatered słudge... 30% solid. disposal costs... \$0.10/kg.d. Supplementing NH₁ and H₁PO₄ to a TOC/NH₄ N/PO₄. P. ratio of 150/10.2

wis well compacted in the antimk to about To solids and easily dewatered by either vicium or press filtration to more than 30% solids. Biomass yield was estimated at 0.20 mg/mg feed TOC for the control SBR and would slightly be lower in the PAC-SBRs [5.6]. The initial MLSS settling rate was estimated at 3 cm/min. The wasted MLSS from the PAC-SBRs was already aerobically stabilized, and no significant volume reduction was observed after 10 days of aerobic digestion. The settled sludge contained about 3.5% solids, and the dewatered sludge had about 30% solids.

Carbon saving

Table 8 presents the expected saving using the PAC-SBR process compared to the existing granular activated carbon adsorption process in the future Hvde Park leachate treatment costs. The PAC SBR treatment of leachate is more cost effective than the two-stage SBR-granular activated carbon treatment because of the overall lower carbon consumption rate and because there is no need for several polishing carbon adsorbers with their associated piping, pumps, and controls

SUMMARY

Approximately 73000 metric tons of chemical waste are contained in the Hyde Park Landfill site in Niagara Falls. New York About 40000 liters a day of leach ite is collected, trucked to a nearby chemical manufacturing plant, and then treated with plant wastewaters by activated carbon adsorption. Because of additional leachate volume to be treated in the near future the carbon consumption rate is expected to rise accordingly. The organic constituents of this leachate, which accounts for about 60% of the combined wastewater volume but more than 80% of the total organic loading to the existing adsorption system were found to be easily biodegraded. Biological pretreatment of the combined wastewater in sequencing bath reactors (SBRs) was capable of reducing the carbon requirement by 90% An even more attractive alternative is biophysicochemical treatment of leachate in powdered activated carbon enhanced sequencing batch bioreactors (PAC-SBRs)

Addition of powdered activated carbon (PAC) significantly improved waste treatment performance of SBRs Because of the concurrent dual organic removal mechanisms, i.e., adsoprtion of persistent compounds on PAC and biodegradation by the mixed culture bacteria, in these PAC-SBR units, the effluents were able to meet very stringent limits on a broad spectrum of parameters. Concentrations for many of the monitored halogenated organic compounds in the effluent were below their respective detection limits.

Excellent treatment efficiency was consistently achieved in bench-scale PAC-SBR units under a variety of operating conditions wastewater composition, feed rate hydraulic retention time, organic loading, PAC dosages biomass and PAC concentrations in the bioreactors. The large inventors of PAC in the mixed liquor (3000 to 6000 mg/L) served as an ideal buffer for preventing any adverse effects due to sudden changes in wastewater characteristics. Some persistent organic compounds might have been biodegraded due to bacterial acclimation which was made possible because of the long holding time of these compounds in the adsorbed state. Furthermore, the performances of those PAC-SBR units without wastewater feeding during weekends and holidays were unaffected. High degree of operational flexibility and low demand for manual attention were demonstrated in the treatability study. The PAC-SBR wastewater treatment process would realize most advantages claimed for the SBR and the powdered activated carbon activated sludge (PACT) processes

The PAC of age required for treating fixed Pirk leachate (TOC up to 8000 mg L) was determined to be less than 4 percent of the carbon exhaustion rate of the existing adsorption treatment process. The small PAC dosage requirement was a direct consequence of continuing biodeg radation of the adsorbed organics. The wastewater treatment cost of this integrated process is substantially lower than either that of the granular activated curbon adsorption process or the two-stage process of biotre itment in SBR followed by carbon adsorption. The PAC SBR process would be equilly attractive in treating other high TOC industrial wastewaters.

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Weischi Ying is an associate scientist for Occidental Chemical Corporation and an adjunct associate professor of Environmental Engineering at State University of New York at Buitalo. He was a visiting professor at East China Institute of Chemical Technology in 1983. His work on modelling and application of biological carbon adsorption process won the 1979. Nalco Award for significant research in water and wastewater treatment. He earned a BS in Chemical Engineering from Tunghai University (Tuwani in M.S. in Chemical Engineering from the University of Toledo. an M.S.E. and a Ph.D. in Environmental Engineering from the University of Michigan.



Stanley A Sojka is the manager of Special Environmental Programs for Occidental Chemical Corporation. He is in charge of waste landfill site remediation activities including the selection of appropriate technologies for treating liquid and solid wastes. He continues to play a major role in the R&D projects on the use of genetically engineered bacteria for pollution control purposes. He has received numerous awards for outstanding research and for professional service. He has a B.S. in Chemistry from Canisius College and a Ph.D. in Organic Chemistry from Indiana University. He conducted post doctoral research at University of Basel (Switzerland) and served on the Chemistry faculty at Trinity College in Washington, D.C.

NATURAL RESOURCES COMMISSION THOMAS J ANDERSON MARLENE J FLUHARTY KERRY KAMMER O STEWART MYERS DAVID D OLSON RAYMOND POUPORE



JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

GORDON E GUYER, Director
District 12 Headquarters
P.O. Box 355, Plainwell, Michigan 49080

July 20, 1987

Mr. Daniel J. Starkey, P.E. General Superintendent Water Reclamation Plant 1415 N. Harrison Kalamazoo, Michigan 49007-2565

> RE: Long Term Compliance Plan for PCB Amended Plan Due August 31, 1987

Dear Mr. Starkey:

We have reviewed your revised Long-term Compliance Plan for PCB dated January 7, 1987. This plan was submitted in compliance with Part I Section A3(a) of your NPDES permit.

According to this plan, the Kalamazoo Water Reclamation Plant will attempt to demonstrate compliance with the long-term water quality based effluent limitation for PCB by conducting a bioaccumulation study of the effluent.

Since it may not be possible to demonstrate compliance by using a bioaccumulation study, the long-term compliance plan should be expanded to include source control and reduction measures. This would include pretreatment or removal of PCB's at the source before the PCB's enter the sanitary sewer system. The plan should clearly state that appropriate source control measures will be implemented if bioaccumulation studies indicate the need.

Please submit your amended plan to include the above discussed PCB source control/reduction measures by August 31, 1987.

If you have any questions, please contact this office.

Sincerely,

SURFACE WATER QUALITY DIVISION

Linda Koivuniemi

Plainwell District Office

616-685-9886

LK/cmb

R1026-1 cc: G. Saalfeld, SWQD, Lansing

TECHNICAL REPORT NO.

HT-603

TREATMENT OF BENZENE, TOLUENE, AND XYLENE (BTX) AND OTHER POLLUTANIS IN SURFACE RUN-OFF

By John A. Meidl, Product Manager Zimpro/Passavant Inc., ILTA Terminal Member, Rothschild, WI

Presented at: Seventh Annual ILTA National Operating Conference Adam's Mark Hotel Houston, TX June 15-16, 1987

For the Conference Seminar Entitled:

Surviving Rainwater Regulation - Collection, Treatment, and Monitoring Alternatives



ILTA NATIONAL OPERATING CONFERENCE June 15-16, 1987

INTRODUCTION

Stricter Federal and State regulations pertaining to discharges of organic pollutants to the environment has required industry to monitor previously non-regulated sources. Environmental scrutiny of water emissions, air emissions, and even sludge composition from operating facilities is pushing industry to treat to stay in business, and has caused many to evaluate more sophisticated technology than the conventional oil-water separator or even the chemical treatment option in order to stay "in-compliance". Such factors make it important to those regulated to understand the merits of treatment and some of the pitfalls of a treatment program that does not consider all aspects of treatment - water, air, and sludge.

TREATMENT OF BENZENE, TOLUENE, XYLENE (BTX)

Benzene, toluene, xylene are organic compounds, liquids at 20° C, having chemical and physical characteristics at 20° C as shown below.

Compound	Chemical Formula	Boiling Point OC	Density, g/m	Vapor Pressure, atm	Henry's Constant	Solubility, mg/l
Benzene	C6H6	80	0.879	0.125	5.49	1,750
Toluene	С ₇ Н ₈	111	0.866	0.037	6.66	534
Xylene	C ₈ H ₁₀	140	*	0.009	5.27	175

^{*}o-, m-, p- are 0.880, 0.864, 0.861, respectively

A number of approaches exist for the treatment of BTX wastewaters. Historically, a conventional biological approach such as activated sludge has been used. In some instances a straight adsorption approach such as GAC has also been used.

Biological Treatment:

Conventional activated sludge (AS) treatment will generally be able to treat BTX containing wastewaters. As Geating(1) shows, berzene can be treated to low concentrations. Similarily, toluene and xylene can be removed.

A factor in such treatment, however, are other compounds that may be included as a part of the BTX wastestream and their response to biological treatment. Work by Weber(2) as shown in Table 1, for instance, notes that compounds like 1,2-dichlorbenzene and 1,2,4-trichlorobenzene are not well treated at all. True treatment - the summation of removals occurring as a result of biodegradation and floc sorption is quite poor. Much of the "treatment" is stripping that occurs in the aeration basin of the AS process. One must then ask the question whether air quality standards will be exceeded, and if so, how to best treat the gas phase.

Table 1

AS Treatment of Toxic Organics
(% of Influent)

Compound	Effluent	AS Sorption	Biodegraded	Off-Gas (Stripping)
Nitrobenzene	2	0	98	1
Benzene	1	0	84	16
Toluene	1	0	83	17
Xylene	1	0	75	25
Ethylbenzene	1	0	78	22
Chlorobenzene	1	0	80	20
1,2-Dichlorobenzene	6	0	35	59
1,2,4-Trichlorobenzene	10	1	0	90
Lindane	96	4	0	0

% Treatment = AS Sorption + Biodegraded

Webers work shows that actual treatment accounts for about 84% removal of benzene and toluene, 75% removal of xylene, and only 35% and 1% removal of dichlorobenzene and trichlorobenzene, respectively.

Recognizing that biological treatment of some compounds may be a problem and that stripping of VOCs occurs, it would be prudent to ascertain chemical composition and stripping tendency of VOCs prior to design of a biological waste treatment system since it may mean additional treatment steps, covered basins, and an off-gas emissions control system.

It must also be recognized that, as a result of bio-treating, a biological sludge is generated that must be controlled and disposed of. Depending on the wastes being treated, the waste sludge could be classified as a hazardous material and could significantly influence process economics. For example, treating a flow of 300,000 gpd at a waste strength of approximately 1000 mg/l COD will result in about 500 lb/d dry weight solids. Polymer conditioning of the sludge could result in about 610 tons/year wet sludge to disposal. At a landfill cost of \$200/wet ton, annual disposal costs will exceed \$120,000.

Granular Activated Carbon (GAC) Adsorption:

Adsorption of BTX containing wastewaters has been practiced. How well treatment will be accomplished is a function of each compound's adsorptive characteristics and the level and type of organics to adsorption that are associated with BTX.

The Freundlich isotherms for BTX are shown in Figure 1 (3). As the isotherm shows, benzene is the least sorbable of the three compounds. This is expected since benzene is a 6 carbon molecule, toluene and xylene are 7 and 8 carbon atoms, respectively. A comparison of carbon requirements to reduce about 20 mg/l of each compound by 50% and 95% is shown in Table 2. As shown, significantly more carbon is needed to remove benzene than xylene. Treating wastes, then, when a whole host of organics other than BTX are involved, becomes a complex task.

Abnormal breakthrough behavior can occur in GAC where column effluent concentrations of organics are much greater than the influent concentration(4). Such a problem warrants a thorough knowledge of waste characteristics and special design considerations. Also, change in waste characteristics from testing to start-up can dramatically change design and predicted carbon use.

The GAC system also adsorbs organic materials that can be easily treated biologically. Such biodegradable material takes up valuable space on the surface of the carbon that otherwise could have adsorbed non-biodegradable compounds and results in inefficient use of the GAC. A perspective on realizable savings is best described by work at Stringfellow, California (5) and Occidental Chemical, New York (6).

In the former, to reach a given COD level in the discharge, GAC required 7000 mg/l carbon dose (annual cost \$1.8 million). However, when a biological + powdered carbon adsorption step were combined, the carbon dose fell to 700 mg/l (annual cost \$70,000). In the latter when treating 40,000 gpd leachate, the use of biological treatment in conjunction with powdered carbon showed powdered carbon utilization to be 4% of the utilization caused by treating with GAC alone, leading to an annual savings of \$600,000/year.

Combined Activated Sludge - Powdered Activated Carbon Treatment:

A treatment system that takes advantage of both the biodegradation characteristics of organics as well as their adsorption characteristics is a powdered carbon enhanced activated sludge system as shown in Figure 2. In such a system, PAC is carried in high enough concentrations in the activated sludge aeration system to ensure capture of complex and volatile organic substances that would otherwise create treatment problems in separate AS or GAC systems. Such a system, in fact, has been shown to be more efficient in treatment than even a combined AS + GAC system (7). Greater detail on the process, known as the PACTTM system, follows.

THE BASIC POWDERED CARBON TREATMENT APPROACH: THE PACTTM SYSTEM

Generally, granular activated carbon should be used to treat only very dilute concentrations of organics (ppb range) since, with more concentrated organics, the use of such a physical treatment step alone is often not adequate since desorption phenomena occur (chromatographic effect) under transient loading conditions. The powdered carbon enhanced activated sludge system, however, not only removes toxics from wastewater, but also reduces the tendency of upsets of the active biological population, thus allowing both physical adsorption and bio-oxidation/ stabilization to occur simultaneously.

When treating waste using aerobic, biological means, off-gas quality is a concern due the tendency to strip volatiles while aerating and thus not truly effecting treatment of the organic species, as previously shown. In this regard PACT is able to control organic emissions much more effectively than conventional biological processes. Weber's (2) work, when comparing Tables 1 and 4, shows that by adding powdered activated carbon, volatilization off an aerated tank can be controlled. Again, better "retentivity" occurs at the higher carbon levels. Thus, steam or air stripping ahead of PACT is generally not a necessity where it definitely could be with other treatment approaches.

And as important as the previous factors is proper residuals' (waste solids) management. Such residuals can be disposed of in a secure landfill or taken to an oxidation/incineration step such as wet oxidation or thermal (open flame) combustion for destruction.

As with any wastewater treatment process, spent residuals (carbon) also exist from PACT TM - the spent residual being composed of biosolids, spent carbon, and adsorbed organics. The advantage of PACT over activated sludge, however, is that filter pressed PACT solids will reach cake solids concentrations of 50% versus activated sludge pressed solids which will only achieve 15% cake solids. This will have an impact on overall O&M costs as shown by Table 5 where PACT is compared to the previously mentioned AS example. Even though PACT has 50% more dry weight solids than conventional activated sludge (750 lb/d vs. 500 lb/d), total wet weight

The powdered carbon process as it is designed will effectively treat conventional and nonconventional pollutants. The system, as shown in Figure 2, involves the addition of powdered carbon to the aeration basin of the activated sludge process, effecting treatment in a single process step. More than a simple combination of carbon adsorption and biotreatment is provided, however.

Carbon adsorption in the PACT system provides a mechanism for completely removing toxic or inhibitory substances as a result of the system's bio-oxidation potential. That is, organics are retained in the system for the period of time approaching the solids residence time (SRT) of the system rather than the hydraulic detention time as would occur in a conventional biological treatment process. Maintaining a large quantity of powdered activated carbon adsorbent in the PACT system provides stability against shock and variable organic loadings, being able to reduce toxics to low levels. (See Performance Section, p. 11)

Though concentration analyses of components in waste discharges are important, a significant consideration in today's environmental climate is the discharges' impact on the existing blota at the receiving estuary/ stream and whether that discharge will be toxic. PACT has been shown to be able to effectively control toxicity. For example, Eckenfelder's (8) results in Table 3 show that the LC₅₀ (effluent concentration as a percent which produces death or immobilization of 50% of the test species) for PACT is far better than for conventional activated sludge. And the big advantage of PACT over activated sludge is, that should improved performance be necessary, only a simple adjustment of carbon dose is necessary.

(and total volume) of activated sludge to a landfill amounts to 80% more than from PACT. Assigning a disposal cost of \$200/wet ton to the solids and accounting for the cost of carbon shows PACT to be the more economical. A \$500/ton example was also included since some wastes will command this cost.

With PACT, however, comes a lucrative option — being able to economically recover a commodity (powdered activated carbon) while destroying associated organics (conventional, toxics), and being able to do so while in a slurry of less than 10% solids. That option uses wet oxidation — an aqueous phase oxidation of organics plus inorganic materials and a simultaneous regeneration of powdered activated carbon. The operation is conducted at elevated temperatures (less than 500°F) and pressures (less than 1100 psig) as shown in the general flow scheme of Figure 3.

In wet oxidation the bulk of the organic waste stream is converted to carbon dioxide and water. Because of the aqueous phase oxidation, no oxides of nitrogen or sulfur exist in the off-gases. Also, oxidation of the spent slurry is generally self-supporting (autogenous), requiring no outside source of fuel energy to maintain operating temperatures.

Wet oxidation is being used, commercially, to successfully destroy organics and recover spent PACT carbon. In today's market, however, generally such a system is not cost efficient unless about more than 1 ton/day of powdered activated carbon is being used in the PACT system.

If wet oxidation regeneration were to be used with PACT the only residuals for disposal would consist of a blowdown ash. Though the ash may contain the oxide forms of heavy metals, the ash will be stable, sterile, and non-leaching. The ash can also be dewatered to solids concentrations as high as 70%, with normal ranges being 40% to 60%. An example of how PACT with and without regeneration compares for one industrial application is shown in the summarized analysis of Table 6.

In this case the amount of biosolids + inorganics and carbon from the PACT system amounted to 1750 lb/d and 1700 lb/d, respectively. The installed cost of a wet air regeneration system for this application, including building, amounted to \$2 million. The analysis shows that the biggest factor influencing solids processing costs and the regeneration payback period is sludge disposal. For this application where \$250/wet ton landfill costs are currently applicable, the "payback" period for regeneration is about 4 years. A doubling in carbon use (or price) cuts that period to about 2.7 years. If landfill costs alone double, however, the payback period becomes 2.5 years. No cost assignment was made for any sludge landfill liability.

PACTTM SYSTEM PERFORMANCE

The PACTTM system is being used to successfully treat surface runoff water as well as highly contaminated waters that are a combination of runoff waters and production wastewaters. Because of the system's versatility, it has also found favor in direct treatment of difficult-to-treat industrial wastewaters. A list of some of its users are shown in Table 7. Examples of some applications follow.

Surface Runoff Waters
Powell Duffryn Terminals, Bayonne, NJ:

Powell Duffryn Terminals, Inc. (PDT) has installed a PACT system to treat surface runoff water prior to discharging it to New York harbor.

The Bayonne terminal covers 30 acres and is one of the major terminals serving the industrial northeastern U.S. It is capable of taking the world's largest ocean-going chemical parcel tankers, and storing a full range of chemical products. Capacity is over 1 million barrels.

Alternatively, the facility is equipped for direct transfer between ship and truck or rail.

In addition, Powell Duffryn offers - through its TEPCO division - contract blending and packaging for such products as anti-freeze.

Surface water is collected and contained by a system of concrete pads and dikes the company installed to prevent groundwater contamination. Now, the terminal faces increasingly stringent requirements for its effluent discharge, including a bloassay test for toxicity reduction.

To comply PDT will be processing up to 55,000 gallons of surface runoff a day. PDT runoff contains a "high" COD and a number of dissolved organics that must be reduced before the effluent is discharged into the Kill Van Kull.

High levels of removal were confirmed in extensive pilot testing of the waters with the PACT system.

In order to meet its stringent NPDES permit (Table 8), PDT piloted the PACT system in 1985 and determined it would reliably achieve treatment objectives. Testing (Table 9) at two different carbon doses showed that the dosages used were very conservative and enabled the PACT system to easily meet treatment objectives.

A stress testing period was then conducted (Table 10). In Period 1 carbon dose was reduced below the previously completed Phase II level while waste strength was more than tripled. The initial shock did not affect monitored performance responses other than effluent COD. However, in 4 days effluent CODs dropped from about 500 mg/l to a stable 50 mg/l. After observations concluded that no adverse effect existed, the COD concentration in Period 2 was increased 2-1/2 times over Period 1. In this case a brief period (4 days) existed before a stable effluent COD of 66 mg/l was reached. It is also important to note that BOD strength from Period 1 to Period 2 increased tenfold. Similar to COD, it took BOD₅ 4 days to reach a stable 6 mg/l effluent level. Excursions beyond permitted values could be controlled if higher carbon dosages/carbon mixed liquor levels were employed.

As a matter of interest, waste sludge from the PACT system was tested for its metals leaching characteristics. As shown in Table 11, no appreciable leaching was observed from the spent carbon.

Based on this testing a PACT system package wastewater plant was installed consisting of equalization, pH control, prefab PACT system, sludge storage, virgin carbon silo, and associated ancillary equipment.

Contaminated Groundwater, Runoff, Production Wastes, Bofors-Nobel (LOMAC), Muskegon, MI

LOMAC, a Michigan manufacturer of herbicides and organic chemicals, is treating 1.8 mgd wastewaters by PACTTM, removing compounds not treatable solely by biological means or GAC means. More than 100 different organic compounds, some identified in Table 12, are effectively treated by the process. Because of the volume of flow treated and the toxicity of certain wastestreams, wet oxidation plays a role in carbon regeneration and direct waste detoxification. (Details previously published (9)).

Contaminated groundwater, which makes up about 1.2 mgd of the total flow, has significant quantities of benzene, toluene, chloroaniline, and dichlorobenzene (Table 13). This stream is mixed with production wastes and any site runoff prior to treatment in the PACT system. Treatment results are shown in Table 14. In addition thereto, no traces of benzene, toluene or other volatiles are found in the effluent or in aeration tank off-gases. The powdered carbon dose rate is about 170 mg/l, greater than 90% being a regenerated product.

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Outside Hazardous Wastes, Production Wastes, Runoff DuPont Company, Deepwater, NJ:

Operation at the DuPont Chambers Works facility shows trends for organic priority pollutant removal by the PACT system in Table 15 arranged from the easiest to the most difficult to remove. (10) Volatiles are well removed with only 1,1,1-trichloroethane and chloroform below 90% removal. Acid extractables are also generally well removed. Phenolics removal decreases with increased ring chlorination. Aromatics are well removed. Removal as reported herein are at a carbon dosage of 125 mg/1.

Other Wastes:

Performance results from two other industrial PACT systems are contained in Table 16. Application A uses wet air regenerated carbon, Application B virgin carbon. Application A is treating wastewaters and runoff water; Application B is treating chemical wastes.

Table 2

TREATMENT OF BTX BY CARBON ADSORPTION

(Starting Concentration = 20 mg/l)

Compound	Effluent Conc., mg/l % Removal	10 50	5 75	1 95
		<u>Ca</u>	rbon Dose,	mg/l
Benzene		190	1,000	18,000
Toluene		100	250	700
Xylene		60	120	200

Table 4

TREATMENT OF TOXIC ORGANICS, % REMOVAL

	PACT TM Syste	em	
Carbon Dose, mg/l	50	100	Activated Sludge System
Nitrobenzene	97	99	97
Benzene	84	86	83
Toluene	ND	90	84
O-Xylene	82	ND	78
Ethylbenzene	85	87	81
Chlorobenzene	85	90	82
1,2-Dichlorobenzene	71	93	36
1,2,4-Trichlorobenzene	77	94	0
Lindane	92	ND	0

ND - Not Determined

è.

Table 3

TREATMENT OF A CHEMICAL MANUFACTURING WASTEWATER

	$\frac{BOD}{mg/1}$	$\frac{TOC}{mg/1}$	<u>Color</u> APHA Units	Cu mg/l	<u>Cr</u> mg/l	<u>Ni</u> mg/l	<u>LC</u> 50
Influent	320	245	5365	0.41	0.09	0.52	
Extended Air Activated Sludge Effluent	3	81	3830	0.36	0.06	0.35	11
PACT Effluent @ Carbon Dose							
@ 100 mg/1	3	53	1650	0.18	0.04	0.27	33
@ 250 mg/l	2	29	323	0.07	0.02	0.24	> 75
@ 500 mg/l	2	17	125	0.04	0.02	0.23	> 87

•

Table 6

REGENERATION ANALYSIS $\mathtt{PACT}^{\mathrm{TM}} \ \mathtt{SYSTEM}$

SOLIDS PRODUCTION:

Case 1

Case 2

Case 3

Biosolids + Inorganics = 1,750 lb/d Carbon Dose = 1,700 lb/d				
COST FACTORS				
		With eneration		hout neration
Annual Solids to Disposal, tn/yr (wet)		150*	-	L , 575
Annual Carbon Requirements (Makeup) @ 40¢/lb		\$25 , 000	\$25	50,000
Regeneration O&M	\$	110,000		
Regeneration (Installed Price)	\$2	Million		
Total SENSITIVITY ANALYSIS (Annual Cost) in \$000				
Disposal Cost, \$/wt ton	250	500	250	500
Base Case (Case 1)	\$172	\$209	\$650	\$1,050
Price of PAC Doubles (Case 2)	\$197	\$234	\$900	\$1,300
PAC Dose Doubles (Case 3)	\$222	\$280	\$970	\$1,440

4 2.5

2

2.7

2.7

2.7

REGENERATION PAYBACK, YRS (Regeneration Price) Annual O&M Cost Difference

Table 5
SLUDGE DISPOSAL COST COMPARISON*

	Activated Sludge	PACT TM
Dry Weight Solids to Disposal, lb/d		
Biosolids	500	500
Carbon	0	<u>250</u>
Total, Ton/Year	91	137
% Solids	15	40
Wet Cake to Disposal, Ton/Year Annual Cost, \$	610	340
•	^	26,000
Carbon @ 40¢/lb	0	36,000
Disposal @ \$200/wet ton @ \$500/wet ton	122,000 305,000	68,000 171,000
Total Annual Costs, \$		
@ \$200/wet ton @ \$500/wet ton	122,000 305,000	104,000 207,000

*

^{*}for a 2500 lb/d ${\rm COD}_{\rm r}$ application (0.3 mgd @ 1000 mg/l)

Table 8

POWELL-DUFFRYN TERMINALS

NPDES Permit (mg/l unless specified otherwise)

Flow, mgd	0.055
pH, units	6-9
O&G	15 maximum
COD	150
TOC	Monitor
BOD	50
TSS	50
Methylene Chloride	0.055
Perchlorothylene	0.065
Trichloroethylene	0.065
Chloroform	0.040
Carbon Tetrachloride	0.030
l,l-Dichloroethane	Monitor
1,2-Dichloroethane	0.085
Styrene	Monitor
Butyl Acetate	Monitor
Ethylene Diamine	Monitor
Vinyl Acetate	Monitor
Vinyl Chloride	0.065
Phenol	0.035
Toxicity (Bioassay)	96 hr. LC ₅₀ 50%
Priority Pollutants	Monitor

Table 7 $\mbox{ PARTIAL LIST OF PACT}^{\mbox{\scriptsize TM}} \mbox{ SYSTEM USERS}$

DuPont

General Electric

Exxon

Tenneco

Bofors Nobel (LOMAC)

UpJohn

ALCOA

Crompton-Knowles

Moore Business Forms

Ciba-Geigy

Powell-Duffryn

ICI Americas

Koppers

Table 9

PACTTM SYSTEM PILOT TESTING

POWELL-DUFFRYN TERMINALS

	Phase I	Phase II
Operating Conditions:		
HDT, days SRT, days Carbon Dose, mg/l Mixed Liquor Carbon, mg/l MLSS, mg/l	1.1 8.3 1,790 13,500 16,900	1.1 8.3 940 7,100 10,000
Performance Results:		
Biogrowth Rate, gm bio/gm $\mathtt{COD}_\mathtt{r}$	0.0	9
COD in (mg/l) out	636 19	643 14
BOD_5 in (mg/l) out	230 < 6	182 < 6
DOC in (mg/l) out	117 < 4	118 < 4
Color in (APHA Units) out	98 8	40 6
O&G in (mg/l) out	40 < 1	30 < 1

-

Table 11

RCRA EXTRACTION PROCEDURE TOXICITY TESTING PACTTM SYSTEM WASTE SOLIDS POWELL-DUFFRYN TERMINALS

Contaminant	Permitted Threshold Concentration (mg/l)	Sludge Sample (mg/l)
Arsenic	5	< 0.1
Barium	100	0.05
Cadmium	1	0.08
Chromium	5	0.03
Lead	5	0.14
Mercury	0.2	< 0.08
Selenium	, 1	< 0.2
Silver	5	< 0.01

Table 10

PACTTM SYSTEM STRESS TESTING
POWELL-DUFFRYN TERMINALS

	Period 1	Period 2
Operating Conditions:		
HDT, days SRT, days Carbon Dose, mg/l ML Carbon, mg/l MLSS, mg/l	1.1 8.3 780 5,900 9,400	1.1 8.3 800 6,100 10,700
Performance Results:		
COD in (mg/l) out	2,119 50*	5,520 66*
BOD ₅ in (mg/l) out	54 < 6	569 < 6*
DOC in (mg/l) out	489 12	879 30*
O&G in (mg/l) out	25 < 1	3.1

^{*}Stable level achieved within 4 days from when initial stress loading begun

Table 12

PARTIAL LIST OF PERMITTED COMPOUNDS BOFORS-NOBEL INC. MUSKEGON, MICHIGAN

Acetone	Chloroaniline	Isophorone
Aliphatic Amine	Chlorobenzene	Methylene Chloride
Allyl Alcohol	Chlorophenol	Methylpyridine
Ammonium Dithiocarbamate	Cresol	Nitrocresol
Ammonium Thiocyanate	Dichlorobenzene	Nitropthalic Acid
Aniline	Dichlorobenzidene	Perchloroethylene
B-Chloroaniline	Dimethylaminexylanol	Phenol
B-Napthylamie	Dinitrotoluene	Phenoxybiphenyl
Benzene	Di-N-Propylformamide	Phenylnaphthalene
Benzidine	Diphenylether	Pthalic Acid
Benzoic Acid	1,2-Dichloroethane	2-Propanol
Biphenyl-OL	Chlorobiphenyls	Sodium Acetate
Biphyridene	Ethyl Acetate	Tetrachloroethylene
Bis (ethyl hexyl) pthalate	Ethyl Benzene	Toluene

Formaldehyde

Table 13

CONTAMINATED GROUNDWATER ANALYSIS
BOFORS-NOBEL INC.

Compound	Concentration (ppb)
2-Chlorophenol	4
Phenol	6
Cresol	5
2-Chloroaniline	13,000
1,2 Dichloroethane	420
Benzene	4,900
Perchloroethylene	5
Toluene	1,500
Chlorobenzene	150
Ethyl Benzene	220
Dichlorobenzene Isomer	2,500
3,3-Dichlorobenzidene	86
Bis (Ethyl Hexyl) Phthalate	100
3-Chloroaniline	68
Benzidine Isomer*	65

^{*} Mass spectrum is very similar but retention time is two minutes earlier.

TABLE 15

RELATIVE REMOVABILITY OF COMPOUNDS
BY THE CHAMBERS WORKS PACT SYSTEM

Removal	Average Feed Conc., ppb	Average PACT Effluent Conc., ppb	Compound	Class
(>99) (>99)	1,770 33	nil nil	Methylchloride Naphthalene	Volatile Base-neutral extractable
(>99)	454	2.1	Nitrobenzene	Base-neutral extractable
(>99)	28	nil	N-Nitrosodiphenylamine	Base-neutral extractable
(99)	519	4.7	Toluene	Volatile
(99)	19	nil	1,2-Dichloroethane	Volatile
(99)	3.6	nil	1,2-trans-Dichloroethylene	Volatile
(98)	105	Ø.85	Benzene	Volatile
(98)	1,720	30	Chlorobenzene	Volatile
(98)	161	5.0	2,4-Dinitrophenol	Acid extractable
(97)	1,020	10	4-Nitrophenol	Acid extractable
(>95)	18	nil	N-Nitrosodi-n-propylamine	Base-nuetral extractable
(>95)	3.6	nil	Methyl bromide	Volatile
(95)	11.4	Ø.6	2-Chlorophenol	Acid extractale
(95)	94	1.4	Carbon tetrachloride Trichlorofluoromethane	Volatile
(95)	155	3.0		Volatile
(94.9)	174	6.3	BOD ₅	Noted and the ball of
(94)	611	38	Pheñol	Acid extractable
(94)	192	13	2-Nitrophenol	Acid extractable
(94)	41	1.7	Ethylbenzene	Volatile
(94)	41	1.9	Trichloroethylene	Volatile
(94)	280	12.3	Chloroethane	Volatile
(93)	24	1.7 nil	Tetrachloroethylene	Volatile Acid extractable
(>9Ø)	2 1.6	nil	2,4-Dimethylphenol	Base-neutral extractable
(>9Ø) (>9Ø)	Ø.6	nil	Acenaphthalene Anthracene	Base-neutral extractable
(>90)	1	nil	Fluoranthene	Base-neutral extractable
(>90)	Ø.8	nil	Phenanthrene	Base-neutral extractable
(89)	13	Ø.6	1,1,1-Trichloroethane	Volatile
(81)	2.1	Ø.4	Pentachlorophenol	Acid extractable
(81)	201	20.5	Chloroform	Volatile
(80.8)	174	32.9	Soluble TOC	10300220
(73)	370	100	1,3&1,4-Dichlorobenzenes	Base-neutral extractable
(67)	Ø.3	Ø.1	2,4,6-Trichlorophenol	Base-neutral extractable
(66)	523	169	1,2,4-Trichlorobenzene	Base-neutral extractable
(65)	1,900	243	2,4-Dinitrotoluene	Base-neutral extractable
(64)	1,640	575	2,6-Dinitrotoluene	Base-neutral extractable
(63.7)	1,440*	484*	Color	
(44)	214	120	1,2-Dichlorobenzene	Base-neutral extractable

Table 16

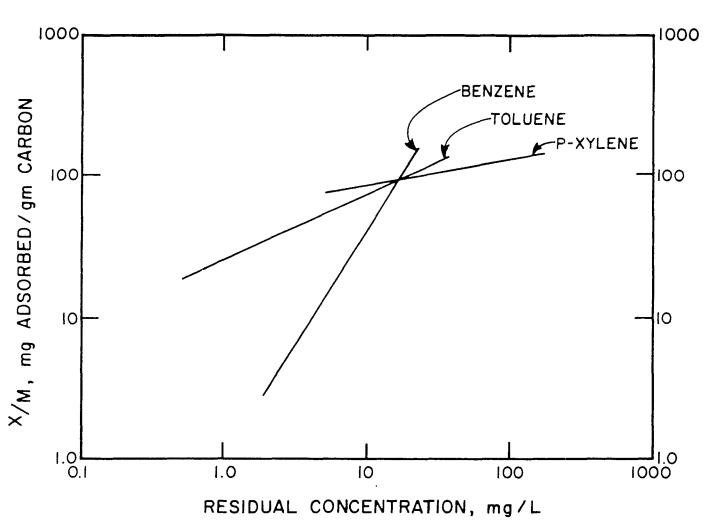
PACT SYSTEM TREATMENT (ug/L)

Application	_A_		В	_
Compound	<u>In</u>	<u>Out</u>	<u>In</u>	Out
Acetonitrile Acrylonitrile Ethyl acetate			5,000 117,000 47,000	* * *
Vinyl acetate Ethyl aceylate			15,000 17,000	*
Methyl methocrylate.	2.700	-	104,000	*
Benzene Ethylbenzene Propylbenzene	2,700	5	660 201 126	2 * *
t-Butanol n-Butanol			306,000 49,000	106,000
t-Butyl methylether Carbon tetrachloride			108,000 4	6,000 *
Chlorobenzene	1,700	60		
Chloroform 1,3 Dichlorobenzene	70 130	10 15	5,260	170
l,2 Dichlorobenzene Dichloromethane Ethanol	130	15	39,560 30,000	220 *
Isopropanol	110	30	11,000	*
Methylene Chloride - Methylstryene	110	30	365	*
n-propanol 2-Nitrophenol	290	< 5	4,000	*
l,1,1-Trichloroethane	40	< 5	424	2
Trichloroethylene Tetrachloroethylene	10	< 5	1,810 27	13 *
Toluene	400	< 5	1,645	1
o-Xylene m-Xylene	4,300	100	51 542	*
p-Xylene			263	1
Cadmium	38	< 3		
Copper Barium	187 215	8 94		
Nickel	553	275		
Zinc	327	101		

^{*}non-detectable

CARBON ADSORPTION ISOTHERMS





PACT[™] GENERAL PROCESS DIAGRAM

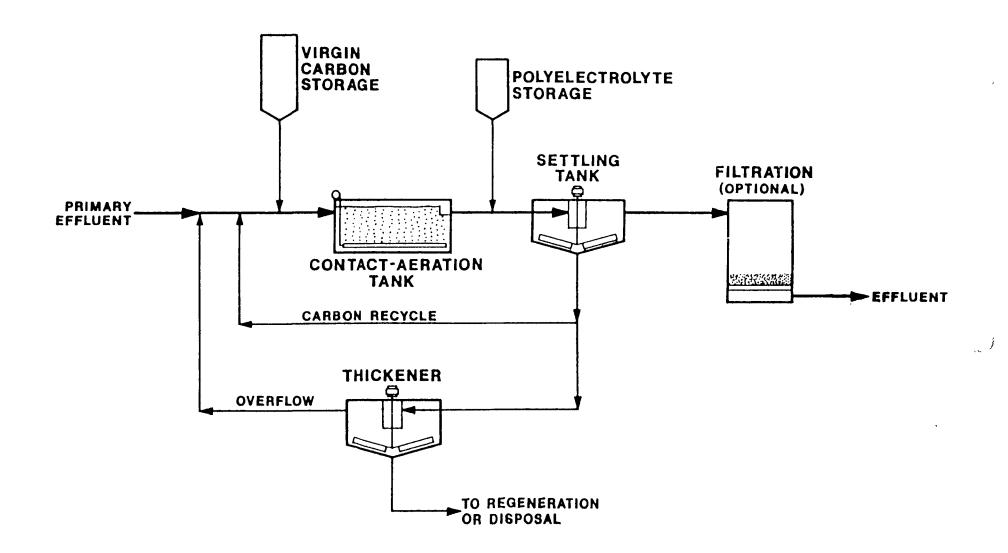
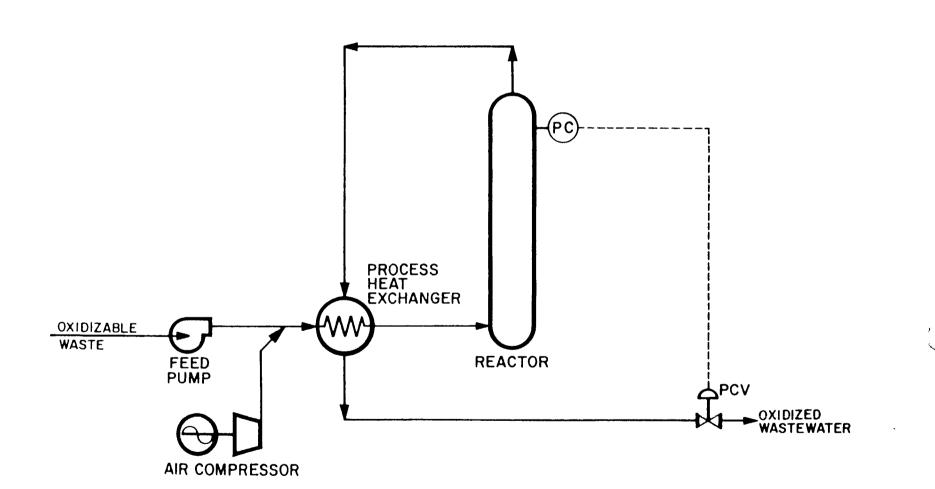


FIGURE 3

WET AIR OXIDATION GENERAL FLOW DIAGRAM



PACTTM Wastewater Treatment

	Influent		Effluent		Percent Removal	
Flow, MGD	1.8		_		-	
COD, ppm	600		< 80*	>	90	
Orthochloroanaline, ppb	53,000		< 10	>	99	
Dichlorobenzidene, ppb	12,000**		< 2	>	99	
Suspended Solids, ppm	-		< 10			
Ammonia Nitrogen, ppm	150-200		< 10	>	95	
* Recent 7-day composite samples, ppm	* 8/12/86 8/26/86 9/9/86 9/23/86 10/14/86	63 72 34 64 42				

^{**} Measured as soluble DCB. Actuals higher since DCB often received in solids form.



PUBLIC SERVICES DEPARTMENT

Waltewater Division 4 (5 N. Harrison Kalamazoo Michigan 49007-2565 516) 337-8157 Far 616 (337-8692

Mr. Ralph Balkema Orchard Hill Landfill 3290 Hennessey Road Watervliet, Michigan 49098

Dear Mr. Balkema:

In the past year, we have been increasingly informed about observations made by some of the haulers and wastewater staff indicating a rising trend in the number of drivers failing to clean up after unloading septage at the City of Kalamazoo Water Reclamation Plant (KWRP). Historically speaking, the septage haulers have relied on a few haulers to clean the mess of the rest. The KWRP provides a pitch fork and container for disposing solids that do not pass through the grating. Please clean the grating and deposit it into the appropriate container after unloading your septage. The significance of this problem as it relates to our stormwater permit is such that we must implement a change in the disposal procedure for septage haulers. All drivers are now required to notify me by dialing 337-8716 if they arrive at the station and find any spills left in the area or the solids plugging the grating. Any drivers failing to participate in this procedure may find themselves cleaning the mess left by someone else. Furthermore, we respectfully remind you that it is not acceptable to dispose of grease trap waste at the KWRP.

It has been approximately one year since implementation of the "honor" system for disposing of septage to the KWRP. We trust that the elimination of waiting for KWRP staff to weigh in and out drivers has significantly reduced the amount of time it takes to unload your trucks. Since implementation of this procedure, we have experienced some difficulty with proper handling of the septage tickets. First, all tickets must be completely and legibly filled out as to hauler and place of origin, names and addresses. We also request that you please remember to indicate the time of weighing your truck next to weight figures. Second, we have had an increase in the number of missing septage tickets. If a mistake is made on a ticket, please void the ticket and place it in the collection box. We must be able to account for all tickets in order to assure proper handling of treatment costs.

It is extremely important that all drivers be notified of these changes as we fully expect cooperation with this change in procedure as a condition of providing our service. If you have any question regarding these procedures, please contact Tim Meulenberg at 337-8716 or Dena Wisdom at 337-8658.

Sincerely,

С

Tim Meulenberg

Industrial Services Supervisor

Bob DeMink, Wastewater Superintendent
Bruce Merchant, Wastewater Systems Manager
Sue Foune, Technical Services Manager
Art Kollin, City Buildings Maintenance Manager
Pat Krause, Kalamazoo County Human Services Department
file



PUBLIC SERVICES DEPARTMENT

Wastewater Division 1415 N. Harrison Kalamazao Michigan 49007-2565 (616) 337-8157 Fax (616) 337-8699

April 21, 1997

Mr. Ralph Balkema Orchard Hill Landfill 3378 Hennessey Road Watervliet, Michigan 49098

Dear Mr. Balkema:

Changes were recently adopted by the City of Kalamazoo Industrial Pretreatment Program that enable you to be removed from Significant Industrial User (SIU) status. Conditions specified in your Individual Control Document (ICD) still apply to wastewater discharged to the City of Kalamazoo Water Reclamation Plant except for the following:

Part III:E.1.--Sampling requirements have been eliminated.

Part III:E.4. & 5.--Semi-Annual Self-Monitoring Reports and Monthly Flow Reports are no longer required unless the Monthly Flow Reports are being submitted for billing purposes.

Monthly Flow Reports for billing purposes are still due the 10th of each month. Users who are not required to submit Monthly Flow Reports should submit Flow Reports semi-annually summarizing monthly flows for the previous six month period. These should be received in our office by January 10th and July 10th each year.

Inspections and sampling will be conducted at least annually by IPP Inspection Personnel. If an annual inspection reveals limit exceedences, problems with equipment, or related compliance concerns, you may be required to conduct sampling and could be returned to SIU status.

Being removed from SIU status does not relieve an Industrial User of its obligations under any local, state, or federal statutes, ordinances, rules, or regulations. If you have questions or concerns about these changes, please contact me at (616) 337-8686 or Bob O'Day, Industrial Inspections Supervisor at (616) 337-870.

Sincerely,

Robert DeMink

Wastewater Superintendent

c: Robert Cinabro, City Attorney;

Robert E. De Mich

Kenneth Collard, Public Services Managing Director Bruce Merchant, Wastewater Systems Manager

Sue Foune, Technical Services Manager

Robert O'Day, Industrial Inspections Supervisor

File

MICHIGAN DEPARTMENT OF NATURAL ADJOURCES

INTEROFFICE COMMUNICATION

District 12 Headquarters P.O. Box 355, Plainwell, Michigan 49080

January 29, 1987

TO:

William Creal, Great Lakes & Environment Assessment Luda Romani

Fred Cowles, Permits

Surface Water Quality Division

FROM:

Linda Koivuniemi, Plainwell

Surface Water Quality Division

SUBJECT: Long-term Compliance Plan for Kalamazoo WWTP

Please review the attached long-term compliance plan (dated January 7, 1987) and provide me with your comments and recommendations.

This plan was submitted in response to their NPDES Permit Part I, Sec. A(3) Special Condition-Long Term Water Quality Based Effluent Limits (attached).

I will respond to Richard Simms regarding our comments. Mr. Simms wants an approval from us before they begin to implement the program as outlined. Also, based on this plan, will the permit need modification?

LK:cw

Attachment

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🎘 (ii) Pike.

🎉 (iii) Walleye.

(iv) Panfish.

(m) "Wastewater" means liquid waste resulting from commercial, municipal, and domestic operations and industrial processes, including cooling and condensing waters, sanitary sewage, and industrial waste.

(n) "Waters of the state" means all of the following, but does not include drainageways and ponds used solely for wastewater conveyance, treatment, or control:

(i) The Great Lakes and their connecting waterways.

(ii) All inland lakes.

(iii) Rivers.

(iv) Streams.

(v) Impoundments.

(vi) Open drains.

(vii) Other surface watercourses within the confines of the state.

History: 1954 AC 77, Eff. Dec. 13, 1973; 1979 AC; 1984 MR 12, Eff. Jan. 18, 1985.

R 323.1051 Dissolved solids.

Rule 51. (1) The addition of any dissolved solids shall not exceed concentrations which are or may become injurious to any designated use. Point sources containing dissolved solids shall be considered by the commission on a case-by-case basis and increases of dissolved solids in the waters of the state shall be limited through the application of best practicable control technology currently available as prescribed by the administrator of the United States environmental protection agency pursuant to section 304(b) of Public Law 92-500, as amended, 33 U.S.C. § 466 et seq., except that in no instance shall total dissolved solids in the waters of the state exceed a concentration of 500 milligrams per liter as a monthly average nor more than 750 milligrams per liter at any time, as a result of controllable point sources.

(2) The waters of the state designated as a public water supply source shall not exceed 125 milligrams per liter of chlorides as a monthly average, except for the Great Lakes and connecting waters, where chlorides shall not exceed 50 milligrams

per liter as a monthly average.

(1) History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC: 1984 MR 12, Eff. Jan. 18, 1985.

Rule 57 (1) Toxic substances.

Rule 57. (1) Toxic substances shall not be present in the waters of the state at levels which are or may become injurious to the public health, safety, or welfare; plant and animal life; or the designated uses of those waters. Allowable levels of toxic substances shall be determined by the commission using appropriate scientific data.

(2) All of the following provisions apply for purposes of developing allowable levels of toxic substances in the surface waters of the state applicable to point source discharge permits issued pursuant to Act No. 245 of the Public Acts of 1929, as amended, being §323.1 et seq. of the Michigan Compiled Laws:

(a) Water quality-based effluent limits developed pursuant to this subrule shall be used only when they are more restrictive than technology-based limitations required

pursuant to R 323.2137 and R 323.2140.

(b) The toxic substances to which this subrule shall apply are those on the 1984 Michigan critical materials register established pursuant to Act No. 245 of the Public Acts of 1929, as amended, being §323.1 et seq. of the Michigan Compiled Laws; the priority pollutants and hazardous chemicals in 40 C.F.R. §122.21, appendix D (1983); and any other toxic substances as the commission may determine are of concern at a specific site.

(c) Allowable levels of toxic substances in the surface water after a discharge is mixed with the receiving stream volume specified in R 323.1082 shall be determined by applying an adequate margin of safety to the MATC, NOAEL, or other appropriate effect end points, based on knowledge of the behavior of the toxic substance,

characteristics of the receiving water, and the organisms to be protected.

R 323.1057 1984 ANNUAL ADMINISTRATIVE CODE SUPPLEMENT

(d) In addition to restrictions pursuant to subdivision (c) of this subrule, a discharge of carcinogens, not determined to cause cancer by a threshold mechanism, shall not create a level of risk to the public health greater than 1 in 100,000 in the surface water after mixing with the allowable receiving stream volume specified in R 323.1082. The commission may require a greater degree of protection pursuant to R 323.1098 where achievable through utilization of control measures already in place or where otherwise determined necessary.

(e) Guidelines shall be adopted pursuant to Act No. 306 of the Public Acts of 1969, as amended, being §24.201 et seq. of the Michigan Compiled Laws, setting forth procedures to be used by staff in the development of recommendations to the commission on allowable levels of toxic substances and the minimum data necessary to derive such recommendations. The commission may require the applicant to provide the minimum data when otherwise not available for derivation of allowable , levels of toxic substances.

(f) For existing discharges, the commission may issue a scheduled abatement permit pursuant to R 323.2145 upon a determination by the commission that the applicant has demonstrated that each of the following conditions is met:

(i) Immediate attainment of the allowable level of a toxic substance is not economically or technically feasible.

(ii) No prudent alternative exists.

(iii) During the period of scheduled abatement, the permitted discharge will be consistent with the protection of the public health, safety, and welfare.

(iv) Reasonable progress will be made toward compliance with this rule over the term of the permit, as provided for in a schedule in the permit.

History: 1954 ACS 77 Eff Dec 13, 1973, 1979 AC, 1984 MR 12, Eff. Jan. 18, 1985.

R 323.1082 Mixing zones.

Rule 82. (1) A mixing zone to achieve a mixture of a point source discharge with the receiving waters shall be considered a region in which the response of organisms to water quality characteristics is time-dependent. Exposure in mixing zones shall not cause an irreversible response which results in deleterious effects to populations of aquatic life or wildlife. As a minimum restriction, the final acute value for aquatic life shall not be exceeded in the mixing zone at any point inhabitable by these organisms, unless it can be demonstrated to the commission that a higher level is acceptable. The mixing zone shall not prevent the passage of fish or fish food organisms in a manner which would result in adverse impacts on their immediate or future populations. Watercourses or portions thereof which, without 1 or more point source discharge, would have no flow except during periods of surface runoff may be considered as a mixing zone for a point source discharge. The area of mixing zones should be minimized. To this end, devices for rapid mixing, dilution, and dispersion are encouraged where practicable.

(2) For toxic substances, not more than 25% of the receiving water design flow, as stated in R 323.1090, shall be utilized when determining effluent limitations for surface water discharges, unless it can be demonstrated to the commission that the use of a larger volume is acceptable. The commission shall not base a decision to grant more than 25% of the receiving water design flow for purposes of developing effluent limitations for discharges of toxic substances solely on the use of rapid mixing, dilution, or dispersion devices. However, where such a device is or may be employed, the commission may authorize the use of a design flow greater than 25% if the effluent limitations which correspond to such a design flow are shown, based upon a site specific demonstration, to be consistent with Act No. 245 of the Public Acts of 1929, as amended, being §323.1 et seq. of the Michigan Compiled Laws, and other applicable law.

(3) For substances not included in subrule (2) of this rule, the design flow, as stated in R 323,1090, shall be utilized when determining effluent limitations for surface water discharges, if the provisions in subrule (1) of this rule are met, unless the commission determines that a more restrictive volume is necessary.

167 WATER O

(4) For all substances, defined mix be determined on a case-by-case bas

(5) Mixing zones in the Great Lak shall be determined on a case-by-cas History: 1954 ACS 77, Eff. Dec. 13, 1973, 1979 At

R 323.1090 Applicability of wat Rule 90. (1) The water quality sta within mixing zones, except for tl R 323.1050.

(2) Water quality standards pres water quality conditions. Water qua water quality conditions not less th:

(3) Water quality standards shall flow. The design flow is equal t exceedance flows, except where th design flow is necessary or where flows may be granted pursuant to I equal to or exceeded 95% of the tim

(4) A maximum of 4 seasonal c effluent limitations for a surface w sion that the use of such design flow the protection of the public health shall be the most restrictive of the each season. Seasonal design flows the basis of credible scientific evic using the waters of the state up characteristics, the persistence an stance or substances and the prese substances into the same receiving increased mass loading of the su seasonal design flows is consistent amended, being §323 1 et seq. of th

History: 1954 ACS 77 Eff. Dec 13, 1973; 1979 A

R 323.1116 Availability of documents referenced

Rule 116. Documents referenced current costs as listed as follows:

- (a) "EPA Priority Pollutants a appendix D (1983); copies may Resources, P.O. Box 30028, Lansing Water Enforcement, U.S. Enviro 20460, at no cost.
- (b) "1984 Michigan Critical Mate Department of Natural Resources.
- (c) "Standard Methods for the edition, 1980: copies may be obtain 1015 Eighteenth Street, N.W., Was Surface Water Quality Division, D Lansing, Michigan 48909, at a cost

History 1954 ACS 77, Dec 13, 1973; 1979 AC, 1



CITY OF KALAMAZOO, MICHIGAN

January 7, 1987

Mr. Fred Morley
Michigan Department of Natural Resources
Plainwell Office
621 North Tenth Street
P. O. Box 355
Plainwell, MI 49080

Dear Fred:

Attached is a <u>revised report and long term compliance</u> <u>plan</u> submitted in compliance with our NPDEs permit Part I Section A3 (a). We would appreciate your review and approval. Following your approval, we will begin to implement the program as outlined.

The original report submitted to you in December 1986 listed incorrect dates for our program schedule (see attached copy).

Thank you for your assistance.

Sincerely,

R.G. Simms

Richard G. Simms, P.E., General Superintendent

d

attachs

- c P. Blakeslee
 - P. Zugger
 - R. Amundson
 - J. Eldred
 - D. Heinicke
 - O. Loen
 - B. Minsley
 - D. Schmidt

File 🗸

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LTWOBEL ON PCB

REVISED 1/1/87

INTRODUCTION

long-term unturruelty based effluent /im
(LTWQ BEL) on PCB.

I. Section 12 The Kalamazoo NPDES Permit #MI0022399, Part I, Section A 3., a. requires the development of a long term compliance plan for achieving the PCB (LIWQBEL). The Water Quality Group, Industrial Services Section, has been assigned the responsibility for this area of work within the Department of Public Contact persons for the status of the work are Jean Eldred,

Services Supervisor, Rohel Amundson, Water Quality General Industrial Supervisor, and Pichard Simms, General Superintendent.

INDUSTRIAL USERS SURVEY

D.S.

As a part of the development of the Industrial Pretreatment Program (IPP), a survey was sent to all industrial users in the service area. The survey contained a list of chemicals which combined the MDNR Critical Materials Survey respondents were Register and the EPA Priority Pollutant list. required to report what chemicals from the list were used or stored at their Seven industries reported that PCB's were stored at their facilities. facilities. One industry reported that it discharged PCB's to the sanitary sewer.

WATER RECLAMATION PLANT INFLUENT AND EFFLUENT ANALYSIS FOR PCB's

was

(KWRP)

Water Reclamation Plant influent was analyzed for priority pollutants on two occasions in February of 1985. PCB's were not detected either time. Beginning in October of 1985, influent and effluent were analyzed once a week, for six consecutive weeks, for several metals and organic compounds, including On one occasion during the six week monitoring program, PCB was noted to be present in the effluent at a level of detection; 0.1 ug/1.

RESIDUALS ANALYSIS

Samples of incinerator ash and carbon regeneration ash were collected on April 29, 1986 and May 6, 1986 and analyzed for several parameters, including PCB's. PCB's were not detected in any of the samples. All KWRP residual solids were residual for PCB's on and and again, so PCB's were found. rested for PCB's on FOLLOW-UP ON POTENTIAL DISCHARGERS

During 1987 follow-up (will be) conducted on the industrial users which indicated in their survey responses that they either store or discharge PCB's. It is expected that several of the respondents indicated storage of PCB's because they have PCB transformers: For those industries which have a potential to discharge PCB's, samples collected quarterly, and analyzed for PCB's Samples may also be collected from industrial users who did not indicate the presence of PCB's in their surveys, if we have reason to believe PCB's may be present.

It is proposed that semi-annual testing for PRB's be purformed on potential discharge PCB dischargers

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for review and approved December 31,1987 - 1 Study Plan Saber Had to MONR Bioaccumale to ה test protocols. The situation for this study tollows: produd study will be conducted on 1 that effluit using approved

Phase 2: Risoccumulation Study - A bisoccumil.

pc8's to our system.

thos intustries which hower the truthal to discusing

host page of this report. Sampling will continue

Survey. This is described in quake detail on the

prose has been completed with the Industrial User

Phase I: AB Source Identification - This

· coatof processor

The compilance proprature with consist of three (2)

COMPLIANCE PROCRIM OUTLINE

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LIWOBEL ON PCB REVISED 1/7/87

COMPLIANCE BIO MONITORING PROGRAM STATUS

OUTLINE

It is planned to implement a bio-accumulation project to demonstrate compliance with the LTWQBEL. This program will begin after the bio-monitoring program for metals is completed. While some of the same program elements will be utilized in the PCB demonstration, a new study plan will first be submitted to the MDNR for approval.

PROGRAM SCHEDULE

January - June 1987

- Continued follow-up and limited analytical work.

July - November 1987

- Study plan development for bio-accumulation program.

December 1987

- Study plan submittal to MDNR.

March 1988 - February 1989 - Bio-accumulation study.

Prepared by: Richard G. Simms

Date:

January 7, 1986

Source Control Measures Phase

will be implemented only if the level of DCB's bioaccomulation test specimens indicate that PCB's print it atitable kvéls, this will involve a follow-up

1. Detailed site inspections of all potential o s deschargers to identify possible source control reduction measures. मृत्म भ

2. Possible 'n on industries if the follow-up inspections reveal . FCB te required. discharges. Bioaccumulation studys on industrial discharges may purpose of PCB reduction shall be imposed. An extensive program for the purpose of identify pretreatment testrictions for the specific

other arknown sources of PCB discharges would Simms > Zugger

Aug ?? 86

Jim Grant

G. Saulfold

Bill (real

Dove Herriche

Ken Leonin

Robel Ammdson

Bruce Merchant

Linda K

Bruce Mindley

D. Stanley

Step 1 - Identify source

Step 2 - Bisaccumlation on & Effaunt only

Step 3 - If PCB show up in bisaccum-

go bulk to industries.

Slug discharges, spills "red light" number

100 ppb - current state detection limits

Action limit

ASTM test procedures -

Summary of data



DEPARTMENT OF PUBLIC UTILITIES

Water Reclamation 1415 N. Harrison Kalamaz∞, Michigan 49007-2565 (616) 385-8157

October 28, 1987

Ms. Linda Koivuniemi, Enviromental Quality Analyst Surface Water Quality Division Michigan Department of Natural Resources Plainwell District Headquarters P.O. Box 355 621 N. Tenth Street Plainwell, Michigan 49080

Dear Ms. Koivuniemi:

Attached is a revised long term compliance plan submitted in accordance with our NPDES permit and our meeting of October 13, 1987. You will note that this revised plan includes source control and reduction contingency measures as was agreed in our meeting.

Thank you for your continued cooperation in this matter. Please do not hesitate to contact me if you have any questions.

Sincerely,

Daniel J. Starkey, P.E., General Superintendent

Ъ

attach

c B. Minsley R. Amundson File

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LIWQBEL ON PCB

REVISED 10/28/87

INTRODUCTION

The Kalamazoo NPDES Permit #MI0022399, Part I, Section A 3., a. requires the development of a long term compliance plan for achieving the long-term water quality based effluent limit (LTWQBEL) FOR PCB. The Water Quality Group, Industrial Services Section, has been assigned the responsibility for this area of work within the Department of Public Utilities. Contact persons for the status of the work are Bruce Merchant, Industrial Services Supervisor, Rohel Amundson, Water Quality General Supervisor, and Daniel Starkey, General Superintendent.

INDUSTRIAL USERS SURVEY

As a part of the development of the Industrial Pretreatment Program (IPP), a survey was sent to all industrial users in the service area. The survey contained a list of chemicals which combined the MDNR Critical Materials Register and the EPA Priority Pollutant list. Survey respondents were required to report what chemicals from the list were used or stored at their facilities. Seven industries reported that PCBs were stored at their facilities. One industry reported that it discharged PCBs to the sanitary sewer.

WATER RECLAMATION PLANT INFLUENT AND EFFLUENT ANALYSIS FOR PCB's

Kalamazoo Water Reclamation Plant (KWRP) influent was analyzed for priority pollutants on two occasions in February of 1985. PCB's were not detected either time. Beginning in October of 1985, influent and effluent were analyzed once a week, for six consecutive weeks, for several metals and organic compounds, including PCBs. On one occasion during the six week monitoring program, PCB was noted to be present in the effluent at a level of detection; 0.1 ug/1.

RESIDUALS ANALYSIS

Samples of incinerator ash and carbon regeneration ash were collected on April 29, 1986 and May 6, 1986 and analyzed for several parameters, including PCBs. PCBs were not detected in any of the samples. All KWRP residual solids were tested for PCBs on September 9, 1987 and again, no PCBs were found.

FOLLOW-UP ON POTENTIAL DISCHARGERS

During 1987 follow-up was conducted on the industrial users which indicated in their survey responses that they either store or discharge PCBs. For those industries which have a potential to discharge PCBs, samples were collected quarterly, and analyzed for PCBs. It is proposed that semi-annual testing for PCBs be performed on potential PCB dischargers.

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LTWQBEL ON PCB REVISED 10/28/87

- 2 -

COMPLIANCE PROGRAM OUTLINE

Phase 1: PCB Source Identification

This phase has been completed with the Industrial User Survey. This is described in greater detail on the first page of this report. Semi-annual sampling will continue for those industries which have indicated that they have the potential to discharge PCBs to our system.

Phase 2: Bioaccumulation Study

A bioaccumulation study will be conducted on KWRP effluent using approved test protocols. The proposed schedule for this study follows:

December 31, 1987 - Bioaccumulation study plan submitted to MDNR for review and approval.

May 1988/April 1989 - Bioaccumulation study.

Phase 3: Source Control Measures

Phase three (3) will be implemented <u>only</u> if the bioaccumulation test specimens indicate that PCBs are present at <u>detectable</u> levels. This will involve a follow-up analysis of all PCB sources including:

- 1. Detailed site inspections of all potential PCB dischargers to identify possible source control or reduction measures.
- 2. Possible pretreatment restrictions for the specific purpose of PCB reduction may be imposed on industries if the follow-up inspections reveal PCB discharges.
- 3. A program for the purpose of identifying other, unknown sources of PCB discharges would be initiated.

Prepared by: Daniel J. Starkey

Date: October 28, 1987

KALAMAZOO LONG-TERM COMPLIANCE PLAN FOR LTWQBEL ON PCB

REVISED 10/28/87

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A "target" so conclutration for potential PCB dischargers will be set at the level of detection of the detection level for PCB in bivaccumulation tests performed on KWRP effluent.

A. Source both the color duction medsures with also or required

data available

Tratant (PACT) system, At this for the there is hunted the removal of PCBs In the Rondered Ashard Carbon was derived from data reserved than Empros in Lotolis loved is in that . Lat a no 21 Jouel 21th Al Investigation and source control miscources will be mitheted a DCB "alert" contration / to adustrial dischargers. Kolvunieni dated Janus 14,1938. The resed plan Includes with a lett - - li-da 2 62 . -Councits in Atticked is a traised PCB compliance plan. To revision. Dear Mr. Mortey

> M. FRA Morty M. L. ENDE Plussill office

y and continued to 427 + 1 121 1727 9 9 0 E p = 1 - 1 - 1 - 1 - 9 - 0/ 2dd cz - -2 ' va; - - 7 24 . 4- 0/1 6 - - ey 23, v y . - ~ Pul 30 mm dete dete de la con de se 2-C115) < | :c = 1 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 \ | 5 Joseph Larrow dept 001 Top

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ANALYTICAL RESULTS

To: Limno-Tech (LTI) Project No: 922994
Report Date: 1/13/93

Project Desc.: Analysis of two aqueous samples from Allied Paper/H.M.

Holding (JD7-2)

Sample No.:922994-01 Type:aqueous Rec'd: 12/23/92 Sampled: 12/23/92

ID: "Midpoint, 16:05"

PCB, total 0.18 ug/L Identified and

quantified as Aroclor 1242.

Sample No.:922994-02 Type:aqueous Rec'd: 12/23/92 Sampled: 12/23/92

ID: "Discharge, 16:00"

Suspended solids, total 4 mg/LSuspended solids, volatile 2 mq/LCadmium, total < 0.005 mg/LChromium, total <0.01 mg/L 0.02 mg/L Copper, total Lead, total <0.002 mg/L <0.0005 mg/L Mercury, total Nickel, total 0.02 mg/L Zinc, total 0.01 mg/L BOD 9 mg/LCyanide, total <0.02 mg/L PH7.5 S.U. PCB, total 0.14 ug/L

Identified and quantified as Aroclor 1242.

Unless otherwise noted, test results represent the sample(s) as they were received.

Industryname	Category	Indid	Samdte	Hname	Value	Hunit	
A. D. Johnson	SIU	ADJ	3/25/1992	PCBs	0.00		
Abex / NWL Aerospace	SIU	PN1	3/4/1992	PCBs	0.00		
Abex / NWL Aerospace	SIU	PN1	1/6/1993	PCBs	0.00	ļ	
Abex / NWL Aerospace	SIU	PN1 PN4	11/17/1993	PCBs PCBs	0.00 0.00		
Abex / NWL Aerospace	SIU SIU	PN4	3/4/1992 5/14/1992	PCBs	0.00		
Abex / NWL Aerospace	SIU	PN4	1/6/1993	PCBs	0.00		
Abex / NWL Aerospace Abex / NWL Aerospace	SIU	PN4	11/17/1993		0.00		
Abex / NWL Aerospace	SIU	PNA	11/17/1993		0.00		
Abex / NWL Aerospace	SIU	PNA	5/16/1994	PCBs	0.00		
Abex / NWL Aerospace	SIU	PNC	2/20/1992	PCBs	0.00		
Abex / NWL Aerospace	SIU	PNC	11/17/1993		0.00		
Abex / NWL Aerospace	SIU	PNC	5/16/1994	PCBs	0.00		
Aero-Motive Company	SIU	AER	6/14/1995	PCBs	0.30	ug/l	1254
Aero-Motive Company	SIU	AER	7/11/1995	PCBs	0.00		
Aero-Motive Company	SIU	AER AER	7/12/1995 7/13/1995	PCBs PCBs	0.00 0.00		
Aero-Motive Company Aero-Motive Company	SIU	AER	8/8/1995	PCBs	0.00		
Aero-Motive Company	SIU	AER	12/4/1995	PCBs	0.00		}
Aero-Motive Company	SIU	AER	12/5/1995	PCBs	0.00		
Aero-Motive Company	SIU	AER	4/18/1996	PCBs	0.00		
Aero-Motive Company	SIU	AER	4/19/1996	PCBs	0.00		
Aero-Motive Company	SIU	AER	4/19/1996	PCBs	0.30	ug/l	1254
Aluminum Finishing Company	SIU	AFC	1/22/1992	PCBs	0.00		
Aluminum Finishing Company	SIU	AFC	2/6/1992	PCBs	0.00		
Applied Coatings	SIU	ACU	10/18/1991	PCBs	0.00		
Applied Coatings	SIU	ACU	12/18/1991		0.00		i
Aramark	SIU	TOD	11/22/1991	PCBs PCBs	0.00 0.00		
Aramark	SIU SIU	TOD TOD	4/18/1995 9/29/1995	PCBs	0.00		
Aramark Aramark	SIU	TOD	2/6/1996	PCBs	0.00		
Arvco Container Corporation	SIU	ACP	12/10/1991		0.00		Í
Arvco Container Corporation	SIU	ACP	3/18/1992	PCBs	0.00		
Arvco Container Corporation	SIU	ACR	12/10/1991		0.00		
Arvco Container Corporation	SIU	ACR	3/11/1992	PCBs	0.00		
Beach Products	SIU	BPY	12/13/1991		0.00		
Beach Products	SIU	BPY	1/22/1992	PCBs	0.00		1
Benteler Industries, Incorporated	SIU	BEN	10/13/1993		0.00		
Benteler Industries, Incorporated	SIU	BEN	6/28/1994	PCBs	0.00		
Benteler Industries, Incorporated Benteler Industries, Incorporated	SIU SIU	BMF BMF	12/18/1991	PCBS PCBs	0.00 0.00		
Borgess Medical Center	SIU	BO4	11/19/1991		0.00		1
Borgess Medical Center	SiU	BO7	11/19/1991		0.00		
Borroughs Corporation	SIU	BL1	1/29/1992	PCBs	0.00		
Borroughs Corporation	SIU	BL2	1/29/1992	PCBs	0.00		
Borroughs Corporation	SIU	BL3	1/29/1992	PCBs	0.00		Į.
Borroughs Corporation	SIU	BLS	1/23/1992	PCBs	0.00		
Borroughs Corporation	SIU	BLS	1/29/1992	PCBs	0.00		
Bowers Manufacturing - Sprinkle Roa		BWS	6/3/1992	PCBs	0.00		
Bowers Manufacturing - Sprinkle Roa	SIU Minor	BWS BOC	11/18/1992 1/1/1992	PCBs	0.00 0.00		1
Bowers Manufacturing - Comstock Bowers Manufacturing - Comstock	Minor	ВОС	1/15/1992	PCBs	0.00		
Bowers Manufacturing - Comstock	Minor	BOC	1/16/1992	PCBs	0.00		ll .
Bowers Manufacturing - Comstock	Minor	BOC	1/17/1992	PCBs	0.00		1 -
Bowers Manufacturing - Comstock	Minor	BOC	11/23/1992		0.00		
Bowers Manufacturing - Comstock	Minor	BOC	11/24/1992		0.00		
Bowers Manufacturing - Comstock	Minor	BOC	11/25/1992		0.00)	
Bronson Methodist Hospital	SIU	BRD	11/27/1991		0.00		
Bronson Methodist Hospital	SIU	BRE	11/27/1991		0.00		
Bronson Methodist Hospital	SIU	BRG	11/27/1991		0.00		
Bronson Methodist Hospital	SIU	BRH	11/27/1991		0.00		
Bronson Methodist Hospital Bronson Methodist Hospital	SIU	BRO	11/27/1991		0.00 0.00		
Bronson Methodist Hospital	SIU	BRP	11/26/1991		0.00		
Bronson Methodist Hospital	SIU	BRQ	11/27/1991		0.00		
		1			1		1)

Industryname	Category	Indid	Samdte	Hname	Value	Hunit
Bronson Methodist Hospital	SIU	BRT		PCBs	0.00	
Checker Motors Corporation	SIU SIU	CMC	12/18/1991	PCBs PCBs	0.00 0.00	
Checker Motors Corporation City Management Corporation	SIU	CMC KBD	1/17/1992 6/26/1995	PCBs	0.00	
City Management Corporation	SIU	KBD	6/3/1996	PCBs	0.00	
City of Kalamazoo	SiU	MDS		PCBs	0.00	
City of Kalamazoo	SIU	MDS	11/8/1993	PCBs	0.00	
City of Portage	SIU	PBP	1/16/1992	PCBs	0.00	
City of Portage - PMF	SIU	PMF	1/12/1996	PCBs	0.00	
Clark Refining & Marketing, Inc.	SIU	CLR	11/29/1991	PCBs	0.00	
Continental Linen Services	SIU	CLS	12/27/1991		0.00	
Continental Linen Services	SIU	CLS	3/18/1992	PCBs	0.00	
Crown Vantage Paper Company	SIU SIU	CV1 CV1	11/28/1995 11/29/1995	PCBS	0.00 0.00	
Crown Vantage Paper Company	SIU	CV1	11/29/1995		0.00	
Crown Vantage Paper Company Crown Vantage Paper Company	SIU	CV1	12/1/1995	PCBs	0.00	
Crown Vantage Paper Company	SIU	CV1	4/2/1996	PCBs	0.00	
Crown Vantage Paper Company	SiU	CV2	6/27/1995	PCBs	0.00	
Crown Vantage Paper Company	SIU	CV2	8/29/1995	PCBs	0.00	
Crown Vantage Paper Company	∥SIU	CV2	4/2/1996	PCBs	0.00	
Crown Vantage Paper Company	SIU	CVP	6/27/1995	PCBs	0.00	
Crown Vantage Paper Company	SIU	CVP	8/29/1995	PCBs	0.00	
Crystal Flash Limited	SIU	CFS	6/16/1994	PCBs	0 00	
Culligan, Incorporated	SIU	CUL	1/30/1992	PCBs	0.00	
Cytec Industries, Incorporated	SIU SIU	AC1 AC2	10/10/1991 5/19/1993	PCBs PCBs	0.00 0.00	
Cytec Industries, Incorporated	SIU	AC2	5/20/1993	PCBs	0.00	
Cytec Industries, Incorporated Cytec Industries, Incorporated	SIU	AC3	5/19/1993	PCBs	0.00	
Cytec Industries, Incorporated	SIU	AC3	5/20/1993	PCBs	0.00	
Diapers Unlimited	SIÚ	DPU	11/20/1991		0.00	
Diapers Unlimited	SIU	DPU	12/13/1991	PCBs	0.00	
Domestic Linen Supply	SIU	DLS	5/27/1994	PCBs	0.00	
Gail Altenderfer	∥SIU	ALT	4/3/1996	PCBs	0.00	
Galesburg/Augusta Public Schools	SIU	GPS	4/1/1996	PCBs	0.00	
General Electric Company	SIU	GEC	2/16/1995	PCBs	0.00	
General Motors Corporation	SIU	FB1	9/13/1991	PCBs	0.00	
General Motors Corporation	SIU SIU	FB1 FB1	5/18/1992 1/13/1993	PCBs PCBs	0.00 0.00	
General Motors Corporation General Motors Corporation	SIU	FB2	9/13/1991	PCBs	0.00	
General Motors Corporation	SIU	FB2	10/14/1991		0.00	
General Motors Corporation	SIU	FB2	5/18/1992	PCBs	0.00	
General Motors Corporation	siū	FB2	1/13/1993	PCBs	0.00	
General Motors Corporation	SIU	FB3	9/13/1991	PCBs	0.00	
General Motors Corporation	SIU	FB3	10/14/1991		0.00	
General Motors Corporation	SIU	FB3	5/18/1992	PCBs	0.00	
Consest Motors Corporation	810	FB3		PCBs:	0.00	uan-
General Motors Corporation General Motors Corporation	SIU SIU	FB4 FB4	9/13/1991 10/14/1991	PCBs	0.90	ug/lङ्
General Motors Corporation General Motors Corporation	SIU	FB4	5/19/1992	PCBs	0.00	}
General Motors Corporation	SIU	FB4	1/13/1993	PCBs	0.00	
General Signal Corporation	SIU	GSC	8/30/1993	PCBs	0.00	
Georgia Pacific Corporation	SIU	GEO	12/2/1987	PCBs	0.00	
Georgia Pacific Corporation	SIU	GEO	4/25/1988	PCBs	0.00	
Georgia Pacific Corporation	∥SIU	GEO	4/23/1991	PCBs	0.00	ļ
Georgia Pacific Corporation	SIU	GEO	12/19/1991	PCBs	0.00	
Green Bay Packaging	SIU	GBP	10/25/1991		0.00	
H M Holding, Incorporated	SIU	HMH	4/26/1991	PCBs	0.00	
H M Holding, Incorporated	SIU	НМН	1/23/1992	PCBs	0.00	
H M Holding, Incorporated	SIU	HMH	2/5/1992	PCBs	0.00	
H M Holding, Incorporated	SIU	HMH	3/16/1992	PCBs	0.00	
H M Holding, Incorporated	SIU SIU	HMH HMH	4/5/1992	PCBs PCBs	0.00 0.00	
H M Holding, Incorporated H M Holding, Incorporated	SIU	HMH	5/11/1992 5/20/1992	PCBs	0.00	
H M Holding, Incorporated	SIU	HMH	6/26/1992	PCBs	0.00	
H M Holding, Incorporated	SIU	НМН	8/23/1992	PCBs		ug/l
III M Holding Incomposated	SIU	НМН	9/18/1992	PCBs	0.00	
H M Holding, Incorporated	11010	11 1 1 1 1 1 1 1 1	1 31 101 1332	#F C D S	10 U.UU	11

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Industryname _	Category	Indid	Samdte	Hname	Value	Hunit	
H M Holding, Incorporated	Category SIU	HMH	11/10/1992	ILI	0.00		
H M Holding, Incorporated	SIU	НМН	11/18/1992	PCBs	0.00		
H M Holding, Incorporated	SIU	HMH	11/25/1992	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	12/1/1992	PCBs	0.00	[
H M Holding, Incorporated	SIU SIU	HMH HMH	12/18/1992 12/23/1992		0.00 0.14	uat	1742
H M Holding, Incorporated H M Holding, Incorporated	SIU	НМН	1/4/1993	PCBs	0.00	ug/i	1242:
H M Holding, Incorporated	SIU	НМН	2/2/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	2/8/1993	PCBs	0.00	. ,	in id
H M Holding, Incorporated	SIU SIU	HMH HMH	2/24/1993 6/3/1993	PCBs PCBs	0.18	ug/i	1248
H M Holding, Incorporated H M Holding, Incorporated	SIU	HMH	6/8/1993	PCBs	0.00 0.00		
H M Holding, Incorporated	SIU	НМН	6/11/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	6/25/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	HMH	6/26/1993	PCBs	0.00		
H M Holding, Incorporated H M Holding, Incorporated	SIU SIU	HMH HMH	6/27/1993 6/30/1993	PCBs PCBs	0.00 0.00		
H M Holding, Incorporated	SIU	НМН	7/1/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	7/2/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	7/13/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	7/14/1993	PCBs	0.00		
H M Holding, Incorporated	SIU SIU	HMH HMH	7/15/1993 8/21/1993	PCBs PCBs	0.00 0.00		
H M Holding, Incorporated H M Holding, Incorporated	SIU	НМН	8/22/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	8/23/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	8/27/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	8/28/1993	PCBs	0.00		
H M Holding, Incorporated	SIU SIU	HMH HMH	9/30/1993 10/1/1993	PCBs PCBs	0.00 0.00		
H M Holding, Incorporated H M Holding, Incorporated	SIU	HMH	10/1/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	10/8/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	∥нмн	10/14/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	10/15/1993		0.00		
H M Holding, Incorporated	SIU	HMH	11/5/1993	PCBs	0.00		}
H M Holding, Incorporated H M Holding, Incorporated	SIU SIU	HMH HMH	11/11/1993 11/12/1993		0.00 0.00		
H M Holding, Incorporated	SIU	НМН	11/17/1993		0.00		
H M Holding, Incorporated	SIU	∥НМН	11/19/1993	PCBs	0.00]])
H M Holding, Incorporated	SIU	НМН	11/20/1993		0.00		
H M Holding, Incorporated	SIU	HMH	11/24/1993		0.00		ļ
H M Holding, Incorporated H M Holding, Incorporated	SIU SIU	HMH HMH	11/25/1993 12/1/1993	PCBS	0.00 0.00		
H M Holding, Incorporated	SIU	НМН	12/2/1993	PCBs	0.00		
H M Holding, Incorporated	SIU	HMH	12/3/1993	PCBs	0.00	l	
H M Holding, Incorporated	SIU	HMH	12/4/1993	PCBs	0.00		
H M Holding, Incorporated H M Holding, Incorporated	SIU SIU	HMH HMH	12/5/1993 12/14/1993	PCBs PCBs	0.00 0.00		
H M Holding, Incorporated	SIU	НМН	3/23/1994	PCBs	0.00		İ
H M Holding, Incorporated	SIU	HMH	3/24/1994	PCBs	0.00	1	ľ
H M Holding, Incorporated	SIU	НМН	3/31/1994	PCBs	0.00		
H M Holding, Incorporated	SIU	HMH	4/1/1994	PCBs	0.00		
H M Holding, Incorporated H M Holding, Incorporated	SIU SIU	HMH HMH	4/2/1994 4/7/1994	PCBs PCBs	0.00 0.00]
H M Holding, Incorporated	SIU	НМН	4/8/1994	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	4/27/1994	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	4/28/1994	PCBs	0.00		
H M Holding, Incorporated	SIU	HMH	4/29/1994	PCBs	0.00		
H M Holding, Incorporated H M Holding, Incorporated	SIU SIU	HMH HMH	5/19/1994 5/20/1994	PCBs PCBs	0.00 0.00		
H M Holding, Incorporated_	SIU	∥НМН	5/21/1994	PCBs	0.00		1
H M Holding, Incorporated	∥SIU	НМН	5/25/1994	PCBs	0.00		
H M Holding, Incorporated	SIU	НМН	5/26/1994	PCBs	0.00)	
H M Holding, Incorporated	SIU	НМН	7/14/1994	PCBs	0.00		
H M Holding, Incorporated H M Holding, Incorporated	SIU SIU	∥HMH ∥HMH	7/15/1994	PCBs PCBs	0.00 0.00		<u> </u>
H M Holding, Incorporated	SIU	HMH	7/18/1994	PCBs	0.00		
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H M Holding, Incorporated	H M Holding, Incorporated		HMH	7/27/1995	PCBs	0.00	}
H M Holding, Incorporated	H M Holding, Incorporated			8/4/1995			
H M Holding, Incorporated	H M Holding, Incorporated						
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#HKP, incorporated #SIU #LRE #1/8/1992 #PCRs # 0.00#	HRP, Incorporated	SIU	LRE	1/8/1992	PCBs	0.00	
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Harrison Packing Company SIU HPC 11/20/1991 PCBs 0.00 Harrison Packing Company SIU HPC 11/26/1991 PCBs 0.00 Haviland Products Company SIU HAV 1/15/1992 PCBs 0.00 Humphrey Products SIU HUM 12/11/1991 PCBs 0.00 Imperial Adhesives Not conn IMA 12/22/1994 PCBs 0.00 Imperial Oil Company SIU IOC 6/30/1994 PCBs 0.00 International Paper, Incorporated Minor INP 11/12/1991 PCBs 0.00 International Paper, Incorporated Minor INQ 11/12/1991 PCBs 0.00
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International Paper, Incorporated Minor INQ 11/12/1991 PCBs 0.00
James River Corporation SIU JR1 11/26/1991 PCBs 0.00
James River Corporation SIU JR2 11/26/1991 PCBs 0.00
James River Corporation SIU JR3 11/26/1991 PCBs 0.00
James River Corporation SIU JRC 12/2/1987 PCBs 0.00 James River Corporation SIU JRC 4/25/1988 PCBs 0.00
KALSEC, Incorporated SIU KSC 11/6/1991 PCBs 0.00 Kalamazoo County Department of Buil SIU KL1 6/15/1992 PCBs 0.00
Kalamazoo County Department of Buil SIU KL2 6/15/1992 PCBs 0.00
Kalamazoo County Department of Bull Sio KL2 0/19/1992 PCBs 0.00
Kalamazoo Creamery SIU KC3 10/29/1991 PCBs 0.00
Kalamazoo Metal Finishers SIU KMF 2/5/1992 PCBs 0.00
Kalamazoo Technical Furniture SIU KTF 6/15/1992 PCBs 0.00
Kalamazoo Valley Community College SIU KCC 11/13/1991 PCBs 0.00
Laidlaw Waste Systems SIU LWS 4/21/1994 PCBs 0.00
Laidlaw Waste Systems SIU LWS 2/7/1995 PCBs 0.00
Laidlaw Waste Systems SIU LWS 2/8/1995 PCBs 0 00
Lakeside Refining SIU LAK 10/18/1991 PCBs 0.00
Lakeside Refining SIU LAK 1/8/1992 PCBs 0.00
Leiner Health Products SIU WLI 11/13/1991 PCBs 0.00
Lowder's Automotive SIU LOW 7/19/1994 PCBs 0.00
Lowder's Automotive SIU LOW 12/20/1994 PCBs 0.00
Lowder's Automotive SIU LOW 5/30/1995 PCBs 0.00
Mall City Container SIU MCC 1/9/1992 PCBs 0.00
Meredith Metering Station Other MRD 4/23/1991 PCBs 0.00
Michigan Department of Natural Reso SIU PPP 12/5/1991 PCBs 0.00
Michigan Department of Transportatio SIU DOT 1/13/1992 PCBs 0.00
Michigan State University SIU KBS 4/5/1994 PCBs 0.00
Michigan State University SIU KBS 8/29/1994 PCBs 0.00
Orchard Hill Landfill SIU OHL 12/12/1991 PCBs 0.00
Orchard Hill Landfill SIU OHL 3/12/1992 PCBs 0.00
Orchard Hill Landfill SIU OHL 5/13/1992 PCBs 0.00 Orchard Hill Landfill SIU OHL 1/14/1993 PCBs 0.11 ug/
Orchard Hill Landfill SIU OHL 12/7/1994 PCBs 0.50 ug/
Orchard Hill Landfill SIU OHL 12/12/1994 PCBs 0.60 ug/
Orchard Hill Landfill SIU OHL 6/29/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 7/28/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 8/3/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 8/11/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 8/18/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 8/25/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 9/8/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 9/18/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 10/26/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 12/7/1995 PCBs 0.00
Orchard Hill Landfill SIU OHL 1/2/1996 PCBs 0.00
Orchard Hill Landfill SIU OHL 1/31/1996 PCBs 0.00
Orchard Hill Landfill SIU OHL 2/22/1996 PCBs 0.00
Orchard Hill Landfill SIU OHL 5/28/1996 PCBs 0.00
Parchment Metering Station Other PAR 4/23/1991 PCBs 0.00
Portage Creek Metering Station Other POR 4/23/1991 PCBs 0.00
Portage Creek Metering Station Other POR 3/29/1995 PCBs 0 00
Portage Paper Company, Inc SIU POP 10/1/1992 PCBs 0.00

Industryname	Category	Indid	Samdte	Hname	Value	Hunit	
Portage Paper Company, Inc.	SIU	POP	11/20/1992	<u> </u>	0.00		
Quala Systems, Inc.	SIU	NUC	12/5/1991	PCBs	0.00		
Quala Systems, Inc. Rick King / Federated Insurance Com	SIU SIU	NUC RKC	2/5/1992 6/9/1995	PCBs PCBs	0.00 0.00		
Rick King / Federated Insurance Com	SIU	RKC	12/4/1995	PCBs	0.00		
Rick King / Federated Insurance Com	SIU	RKC	5/28/1996	PCBs	0.00		
Roelof Dairy Schug Farms	SIU SIU	RLF SGP	11/6/1991 11/14/1995	PCBs PCBs	0.00 0.00		
Schupan & Sons, Incorporated	Minor	SSI	11/6/1991	PCBs	0.00		
Schupan & Sons, Incorporated	Minor	SSI		PCBs	0.00		
Shell Oil Company Specialty Adhesives, Incorporated	SIU SIU	SSS SPA	1/23/1992 2/1/1996	PCBs PCBs	0.00 0.00		
Specialty Adhesives, Incorporated	SIU	SPA	4/18/1996	PCBs	0.00		
Star Truck Rental	SIU	STR	1/13/1992	PCBs	0.00		
Strebor Corporation	SIU SIU	STB STM	11/2/1992	PCBs	0.00		
Stryker Medical Sun Company, Incorporated	SIU	SGO	4/15/1994 9/11/1991	PCBs PCBs	0.00		
Swift-Eckrich, Incorporated	SIU	EKE		PCBs	0.00		
Swift-Eckrich, Incorporated	SIU	EKW		PCBs	0.00		
Textile Systems The Upjohn Company - Ag Farms	SIU	TEX	11/26/1991 11/5/1991	PCBs PCBs	0.00 0 00		
The Upjohn Company - Ag Farms	SIU	UJF	11/5/1991	PCBs	0 00		
The Upjohn Company - Ag Farms	SIU	UJF	7/28/1995	PCBs	0 00		
The Upjohn Company - Bishop Road	SIU	UJB	12/9/1987	PCBs	0.00		
The Upjohn Company - Bishop Road The Upjohn Company - Bishop Road	SIU SIU	UJB UJB	4/26/1988 4/23/1991	PCBs PCBs	0.00 0 00		
The Upjohn Company - Bishop Road	SIU	UJB	11/7/1991	PCBs	0 00		
The Upjohn Company - Downtown Re	SIU	UJ5	4/28/1994	PCBs	0.00		
The Upjohn Company - Downtown Re	SIU	NIC	11/7/1991	PCBs	0.00		
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re	SIU SIU	UJD	11/7/1991 11/8/1991	PCBs PCBs	0.00 0.00		
The Upjohn Company - Downtown Re		UJQ	5/5/1993	PCBs	0.00		
The Upjohn Company - Downtown Re	SIU	UJR	6/2/1992	PCBs	0.00		}
The Upjohn Company - Downtown Re	SIU	บาร	11/7/1991	PCBs	0.00		ļ
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re	SIU	UJS UJT	4/30/1993 11/8/1991	PCBs PCBs	0.00 0.00		
The Upjohn Company - Downtown Re		UJV	11/7/1991	PCBs	0.21	ug/l	No Analyti No Paperw 1254
The Upjohn Company - Downtown Re	SIU	UJV	2/6/1992	PCBs	0.00		No Papern
The Upjohn Company - Downtown Re		UJV	5/1/1992	PCBs	0.00	ua/l) <i>i</i>
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re		01A 01A	5/29/1992 9/10/1992	PCBs PCBs	1.00 0.00	ug/i	1254
The Upjohn Company - Downtown Re	∥SIU	∬UJV	9/11/1992	PCBs	0.00		
The Upjohn Company - Downtown Re	SIU	UJV		PCBs	0.00		
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re	SIU	NJV NJV	11/19/1992 4/28/1993	PCBs PCBs	0.00 0.00		
	SIU	VLU	4/29/1993	PCBs	0.00		
The Upjohn Company - Downtown Re	∥SIU	UJV _{n.r} ,	5/27/1993	PCBs	2.30	ug/l	1254
		UJV	11/30/1993		0.74		1254
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re	SIU	∩1∧ ∩1A	4/26/1994 10/19/1994	PCBs PCBs	0.43 0.00		1254
The Upjohn Company - Downtown Re		ŬĴV	11/29/1994		0.00		
The Upjohn Company - Downtown Re	SIU	UJV	3/28/1995	PCBs	0.00		I
	SIU SIU	ΠΊΛ ΠΊΛ	3/29/1995	PCBs PCBs	0.00 0.00		[
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re	SIU	01V	3/30/1995 7/25/1995	PCBs	0.00		J
The Upjohn Company - Downtown Re	SIU	∥UJV	2/27/1996	PCBs	0.00		
ग्रीhe Upjohn Company - Downtown Re	SIU	ΠΊΧ	11/7/1991	PCBs	1.20		No final of
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re	SIU	N1X N1X	2/6/1992 5/29/1992	PCBs PCBs	0.00 0.00		No Paperu
The Upjohn Company - Downtown Re	SIU	OJX	4/28/1993	PCBs	0.00		
The Upjohn Company - Downtown Re	SIU	UJX	4/30/1993	PCBs	0.00		
The Upjohn Company - Downtown Re		UJX	5/27/1993	PCBs	0.70		1254
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re	SIU	NTX	11/30/1993 4/26/1994	PCBs PCBs	0.00 0.00		
The Upjohn Company - Downtown Re		UJX	11/29/1994		0.00		
The Upjohn Company - Downtown Re	SIU	UJX	3/28/1995	PCBs	0 00		
	J	J	Glaice.	<u> </u>	<u> </u>	<u> </u>	1

UJV 9/2/93

0.27 ug/, 1254

Industryname	Category	Indid	Samdte	Hname	Value	Hunit]
L		UJX	7/25/1995	PCBs	0.00	<u></u>	
The Upjohn Company - Downtown Re The Upjohn Company - Downtown Re		11117	2/2/1996	PCBs	0.00		
The Upjohn Company - Kilgore Road	SIU	OJK (11/5/1991	PCBs	0.00	ug/i	1). 1 1.
The Upjohn Company - Kilgore Road	SIU	UJK	2/6/1992	PCBs	0.00	lug/i	No Analytic No Paperwo
The Upjohn Company - Kilgore Road	SIU	UJK	5/15/1992	PCBs	0.00		100 Tapes wa
The Upjohn Company - Kilgore Road The Upjohn Company - Kilgore Road	SIU	UJK	9/1/1992	PCBs	0.00		
	SIU	UJK	9/2/1992	PCBs	0.00		
The Upjohn Company - Kilgore Road The Upjohn Company - Kilgore Road	SIU	UJK	9/3/1992	PCBs	0.00		
The Upjohn Company - Kilgore Road	SIU	UJK	11/18/1992		0.00		
The Upjohn Company - Kilgore Road The Upjohn Company - Kilgore Road	SIU	UJK	4/28/1993	PCBs	0.00		
The Upjohn Company - Kilgore Road The Upjohn Company - Kilgore Road	SIU	UJK	4/29/1993	PCBs	0.00		
	SIU	UJK	5/27/1993	PCBs	0.30		1251
The Upjohn Company - Kilgore Road The Upjohn Company - Kilgore Road	SIU	UJK	11/30/1993		0.30		1254
	SIU	UJK	4/28/1994	PCBs	0.00)	
The Upjohn Company - Kilgore Road	SIU	UJK	7/28/1994	PCBs	0.00		
The Upjohn Company - Kilgore Road The Upjohn Company - Kilgore Road	SIU	UJK	7/29/1994	PCBs	0.00		j
The Upjohn Company - Kilgore Road The Upjohn Company - Kilgore Road	SIU	UJK	4/4/1995	PCBs	0.00		
The Upjohn Company - Kilgore Road	SIU	UJK	5/5/1995	PCBs	0.00		
The Upjohn Company - Kilgore Road	SIU	UJK	8/22/1995	PCBs	0.00		
The Upjohn Company - Kilgore Road	SIU	UJK	8/23/1995	PCBs	0.00		
The Upjohn Company - Kilgore Road	SIU	UJK	8/24/1995	PCBs	0.00		
The Upjohn Company - Kilgore Road	SIU	UJK	2/15/1996	PCBs	0.00		
Union Camp Corporation	SIU	UCC	10/18/1991	PCBs	0.00		
Union Camp Corporation	SIU	UCC	11/14/1991		0.00		
Welsh Oil, Incorporated	SIU	WEL	1/15/1992	PCBs	0.00		
Welsh Oil, Incorporated	SIU	WEL	3/23/1992	PCBs	0.00		
Welsh Oil, Incorporated	SIU	WEL	6/9/1992	PCBs	0.00		
Welsh Oil, Incorporated	SIU	WEL	12/1/1992	PCBs	0.00		
Welsh Oil, Incorporated	SIU	WEL	6/1/1993	PCBs	0.00		
Welsh Oil, Incorporated	SIU	WEL	12/1/1993	PCBs	0.00		
Western Michigan University	SIU	WM5	11/12/1991	PCBs	0.00		
Western Michigan University	SIU	WM5	12/2/1992	PCBs	0.00		
Western Michigan University	SIU	WM8	11/13/1991	11	0.00		
Western Michigan University	SIU	WM8	12/2/1992	PCBs	0.00		
Western Michigan University	SIU	WM9	11/13/1991		0.00		
Western Michigan University	SIU	WM9	4/20/1994	PCBs	0.00		
Wright Coating Incorporated	SIU	WC2	11/7/1991	PCBs	0.00		
Twingin Coating incorporated	310	VVC2		1 000	0.00		
T	JL	L	JL	JL	l	JL	ון

THE UPJOHN COMPANY

KALAMAZOO MICHIGAN 49001 0199 U S A TELEPHONE (616) 323 4000

Mr. Kent Mottinger Industrial Services Supervisor City of Kalamazoo Water Reclamation Plant 1415 North Harrison Street Kalamazoo, Michigan 49007-2565 July 7, 1992

CERTIFIED MAIL

Dear Mr. Mottinger:

As a Significant Industrial User, The Upjohn Company is submitting to you the Self-Monitoring Report as required by Federal regulations for the period January 1, 1992 to June 30, 1992. Enclosed are the completed reports and analytical data for our Henrietta Street, Kilgore Road, Bishop Road and Gull Road facilities.

The PCB, Aroclor 1260 was detected at low levels in the sample obtained at Kilgore Road. The potential use of PCB compounds was investigated at this facility in January of 1992 following the detection of Aroclor 1254 in the Self-Monitoring samples obtained in December of 1991. Subsequent sampling at the Kilgore sampling point in January 1991 detected no PCB's. At that time, an investigation revealed no known sources of PCB use at the Kilgore Road facility and in the past six months there has been no known use of PCB's at the Kilgore Road facility. This parameter is not included in the Self-Monitoring forms you have forwarded to us for December of 1992. Please advise us if this parameter should be eliminated for the December 1992 six month monitoring requirement at Kilgore Road.

At the Henrietta Street facility, the PCB Aroclor 1254 was detected at sample point V. This PCB was also detected in the December 1991 Self-Monitoring sampling but not in the follow-up sampling performed in January of 1992 at this sampling point. Building 126, which is monitored by sample point V, has no source or activity which would be responsible for positive PCB results. This parameter is again not included in the Self-Monitoring forms you have forwarded to us for December of 1992. Please advise us if this parameter should be eliminated for the December 1992 six month monitoring requirement at this sampling point.





THE URJOHN COMPANY

KALAMAZOO, MICHIGAN 49001-0199, U.S.A. TELEPHONE: (616) 323-4000

Mr. Kent Mottinger Industrial Services Supervisor City of Kalamazoo Water Reclamation Plant 1415 North Harrison St. Kalamazoo, MI 49007-2565

February 4, 1992

Dear Mr. Mottinger:

This letter is a follow-up to our submission of the Self-Monitoring Report as a Significant Industrial User which the Upjohn Company submitted to you on December 13, 1991. In the initial submission the PCB Aroclor 1254 was detected in the analytical results at Kilgore Road and two sampling points at the Henrietta Street facility.

Investigation at Kilgore Road revealed no potential sources of this PCB. The wastewater at this facility was resampled on January 10, 1992. The results indicated no PCB evident in the grab sample.

Low levels of the PCB Aroclor 1254 were also detected at sample point V and X at our Henrietta Street facility servicing Building An investigation at this building revealed no source or activity that would be responsible for the positive results. Both sampling points were resampled on January 10, 1992.

Analysis of the sample obtained at sample point V indicated no PCB in the wastewater. The grab sample from sample point X was positive for the PCB Aroclor 1260. The analytical results were 0.12 μ g/L; the detection level for this assay was 0.10 μ g/L.

A copy of all analysis are included with this letter for your Following the resampling of the wastewater investigation of potential sources of the PCB's, the Upjohn Company plans no further investigation at this time.

If you have further questions, feel free to contact me at 329-9157.

Sincerely,

Mary A Aldrich, Environmental Technician

Environmental Affairs

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THE UPJOHN COMPANY

enclosures c:\malet92\ipp91-2



Copies: WD Anderson, JW Blackmer, HE Ballen, FE Freeland, HC Molise, RL Saddler *, RS Senger, HJ Vostral *, JB Webster, File - 8.5.11 * MAA/eb

KAR Laboratories, Inc. 4425 Manchester Road Kalamazoo, MI 49002

(616) 381-9666	

ANALYTICAL REPORT

To: Upjohn Company

7171 Portage Rd., 6101-306-1

Kalamazoo, MI 49001

Attn: Mary Aldrich

Proj. No.: 920086
Client No.: 0075
Date Activated: 1/10/92
Date Promised: 1/31/92
Date Reported: 1/23/92

PO#:

Project Desc.: Resampling and analysis of three aqueous samples.

Dear Client:

Attached you will find test results for Project No. 920086. Please refer to this Project No. if you have any questions regarding this work.

Respectfully submitted, KAR Laboratories, Inc.

William H. Bouma, Ph.D.

Director

WHB/sm

ANALYTICAL RESULTS

To: Upjohn Company

Project No: 920086

Report Date: 1/23/92

Project Desc.: Resampling and analysis of three aqueous samples.

Sample No.:920086-01 Sample type: aqueous Received on: 1/10/92

ID: "UJK, 1/10/92, 10:25"

PCB, total <0.1 ug/L

Sample No.:920086-02 Sample type: aqueous Received on: 1/10/92

ID: "UJV, 1/10/92, 11:30"

PCB, total <0.1 ug/L

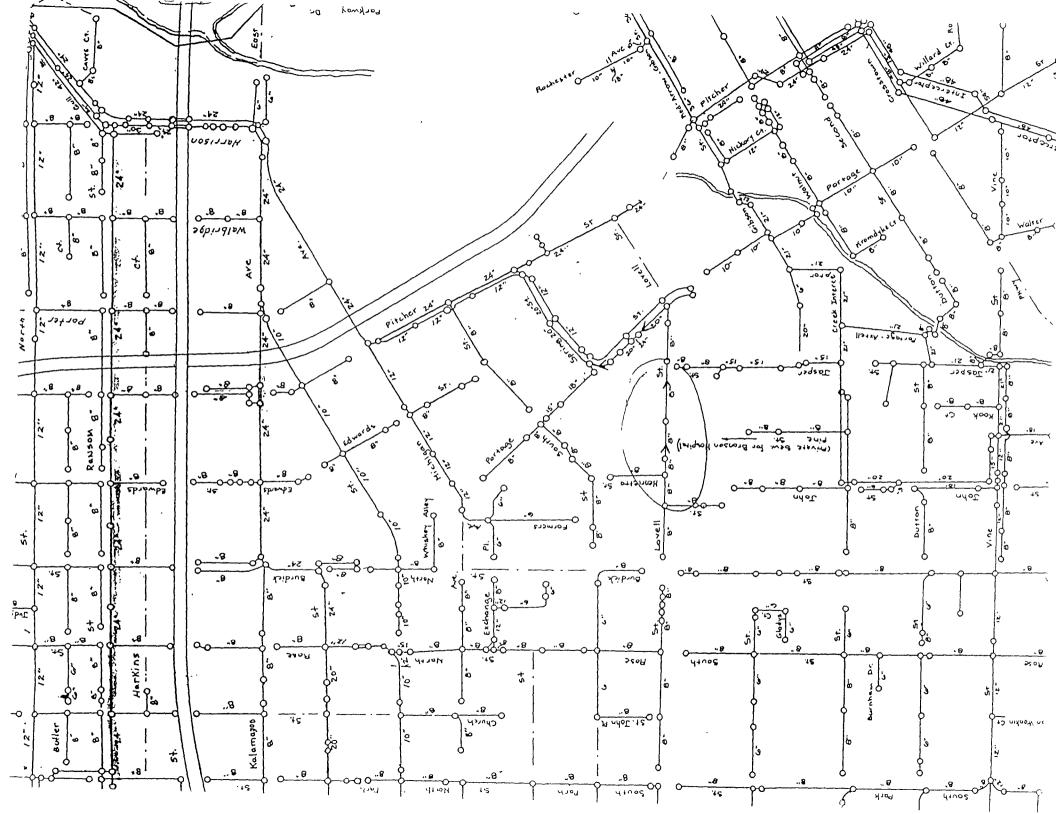
Sample No.:920086-03 Sample type: aqueous Received on: 1/10/92

ID: "UJX, 1/10/92, 11:10"

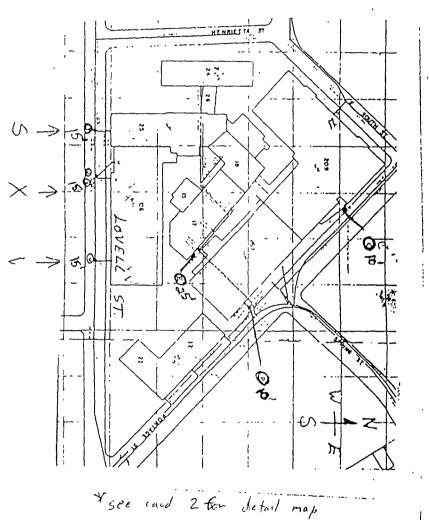
PCB, total 0.12 ug/L Identified and

quantified as Aroclor 1260.

Unless otherwise noted, test results represent the sample(s) as they were received.



* Hanrietta St lp Jihn



Industryname	Category	Indid	Samdte	Hname	Value	Hunit	
A. D. Johnson	SIU	ADJ	3/25/1992	PCBs	0.00		A consider
Aero-Motive Company	SIU	AER	6/14/1995	PCBs -		ug/段孫選	125434
Aero-Motive Company	SIU	AER	7/11/1995	PCBs	0.00		
Aero-Motive Company Aero-Motive Company	SIU SIU	AER AER	7/12/1995 7/13/1995	PCBs PCBs	0.00 0.00		
Aero-Motive Company	SIU	AER	8/8/1995	PCBs	0.00		
Aero-Motive Company	SIU	AER	12/4/1995	PCBs	0.00		
Aero-Motive Company	SIU	AER	12/5/1995	PCBs	0.00		
Aero-Motive Company	รเบ	AER	4/18/1996	PCBs	0.00		
Aero-Motive Company	SIU	AER	4/19/1996	PCBs	0.00		
Aero-Motive Company	SIU	AER	4/19/1996	PCBs		ug/l	1254". 1
Aero-Motive Company	SIU SIU	AER AER	10/28/199 10/29/199	PCBs PCBs	0.00 0.00		
Aero-Motive Company Altenderfer, Gail	Minor	ALT	4/3/1996	PCBs	0.00]	
Aluminum Finishing Company	SIU	AFC	1/22/1992	PCBs	0.00		
Aluminum Finishing Company	SIU	AFC	2/6/1992	PCBs	0.00		
Applied Coatings	SIU	ACU	10/18/199	PCBs	0.00		
Applied Coatings	SIU	ACU	12/18/199	PCBs	0.00		
Aramark	Minor	TOD	11/22/199	PCBs	0.00		
Aramark	Minor Minor	TOD TOD	4/18/1995 9/29/1995	PCBs PCBs	0.00 0.00		
Aramark Aramark	Minor	TOD	2/6/1996	PCBs	0.00		
Arvco Container Corporation	SIU	ACP	12/10/199	PCBs	0.00		
Arvco Container Corporation	SIU	ACP	3/18/1992	PCBs	0.00		
Arvco Container Corporation	SIU	ACR	12/10/199	PCBs	0.00	}	
Arvco Container Corporation	SIU	ACR	3/11/1992	PCBs	0.00		
Benteler Automotive Corporation	SIU	BEN	10/13/199	PCBs	0.00		
Benteler Automotive Corporation	SIU	BEN	6/28/1994	PCBs	0.00		
Benteler Automotive Corporation Benteler Automotive Corporation	SIU SIU	BMF BMF	12/18/199 10/13/199	PCBs PCBs	0.00 0.00		
Borgess Medical Center	SIU	BO4	11/19/199	PCBs	0.00		
Borgess Medical Center	SIU	BO7	11/19/199	PCBs	0.00		
Borroughs Corporation	SIU	BL1	1/29/1992	PCBs	0.00		
Borroughs Corporation	SIU	BL2	1/29/1992	PCBs	0.00		
Borroughs Corporation	SIU	BL3	1/29/1992	PCBs	0.00		
Borroughs Corporation	SIU	BLS	1/23/1992	PCBs	0.00		
Borroughs Corporation Bowers Manufacturing - Sprinkle Road	SIU SIU	BLS BWS	1/29/1992 6/3/1992	PCBs PCBs	0.00 0.00		
Bowers Manufacturing - Sprinkle Road	SIU	BWS	11/18/199	PCBs	0.00		
Bowers Manufacturing - Comstock	Minor	ВОС	1/1/1992	PCBs	0.00		
Bowers Manufacturing - Comstock	Minor	BOC		PCBs	0.00		
Bowers Manufacturing - Comstock	Minor	BOC	1/16/1992	PCBs	0.00		
Bowers Manufacturing - Comstock	Minor	BOC	1/17/1992	PCBs	0.00		
Bowers Manufacturing - Comstock Bowers Manufacturing - Comstock	Minor Minor	BOC BOC	11/23/199 11/24/199	PCBs PCBs	0.00 0.00		
Bowers Manufacturing - Comstock	Minor	BOC	11/25/199	PCBs	0.00		
Bronson Methodist Hospital	SIU	BRD		PCBs	0.00		
Bronson Methodist Hospital	SIU	BRE	11/27/199	PCBs	0.00		
Bronson Methodist Hospital	SIU	BRG	11/27/199	PCBs	0.00		ł
Bronson Methodist Hospital	SIU	BRH	11/27/199	PCBs	0.00		
Bronson Methodist Hospital	SIU	BRN	11/27/199	PCBs	0.00		
Bronson Methodist Hospital Bronson Methodist Hospital	SIU SIU	BRO BRP	11/27/199 11/26/199	PCBs PCBs	0.00 0.00		
Bronson Methodist Hospital	SIU	BRQ	11/27/199	PCBs	0.00		
Bronson Methodist Hospital	SIU	BRT	11/27/199	PCBs	0.00		
Checker Motors Corporation	SIU	CMC	12/18/199	PCBs	0.00		1
Checker Motors Corporation	SIU	CMC	1/17/1992	PCBs	0.00		}
City Management Corporation	Minor	KBD	6/26/1995	PCBs	0.00		1
City Management Corporation	Minor Minor	KBD	6/3/1996	PCBs	0.00 0.00		
City Management Corporation City of Kalamazoo - Cork St. Landfill	SIU	KBD MDS	11/21/199	PCBs PCBs	0.00		
City of Kalamazoo - Cork St. Landfill	SIU	MDS	11/8/1993	PCBs	0.00		
City of Portage - PMF	Minor	PMF	1/12/1996	PCBs	0.00		
City of Portage-PBP	Minor	PBP	1/16/1992	PCBs	0.00	1	
Clark Refining & Marketing, IncCLR	Minor	CLR	11/29/199	PCBs	0.00		
Contempo Colours, Inc.	SIU	BPE	12/13/199	PCBs	0.00		
Contempo Colours, Inc.	SIU	BPE	1/22/1992	PCBs	0.00	1	
	<u> </u>	<u> </u>	<u> </u>	اــــــا	[<u> </u>	

Monday, June 02, 1997	A	NSWER				Page
Industryname	Category		Samdte	Hname	Value	Hunit
Contempo Colours, Inc	SIU	BPY	12/13/199	PCBs	0.00	
Contempo Colours, Inc	SIU	BPY	1/22/1992	PCBs	0.00	
Continental Linen Services	SIU SIU	CLS	12/27/199	PCBs	0.00	
Continental Linen Services	SIU	CLS CV1	3/18/1992 11/28/199	PCBs PCBs	0.00 0.00	
Crown Vantage Paper Company Crown Vantage Paper Company	SIU	CV1		PCBs	0.00	
Crown Vantage Paper Company	SIU	CV1		PCBs	0.00	
Crown Vantage Paper Company	SIU	CV1		PCBs	0.00	
Crown Vantage Paper Company	SIU	CV1	4/2/1996	PCBs	0.00	
Crown Vantage Paper Company	SIU	CV2	6/27/1995	PCBs	0.00	
Crown Vantage Paper Company	SIU	CV2	8/29/1995	PCBs	0.00	
Crown Vantage Paper Company	SIU	CV2	4/2/1996	PCBs	0.00	
Crown Vantage Paper Company	SIU	CVP	6/27/1995	PCBs	0.00	
Crown Vantage Paper Company	SIU	CVP	8/29/1995	PCBs	0.00	
Crystal Flash Limited	Minor Minor	CFS CUL	6/16/1994	PCBs PCBs	0.00 0.00	
Culligan, Incorporated Cytec Industries, Incorporated	SIU	AC1	1/30/1992 10/10/199	PCBs	0.00	
Cytec Industries, Incorporated	SIU	AC2	5/19/1993	PCBs	0.00	
Cytec Industries, Incorporated	SIU	AC2	5/20/1993	PCBs	0.00	
Cytec Industries, Incorporated	SIU	AC3	5/19/1993	PCBs	0.00	
Cytec Industries, Incorporated	SIU	AC3	5/20/1993	PCBs	0.00	
Diapers Unlimited	SIU	DPU	11/20/199	PCBs	0.00	
Diapers Unlimited	SIU	DPU	12/13/199	PCBs	0.00	
Domestic Linen Supply	SIU	DLS	5/27/1994	PCBs	0 00	
Galesburg/Augusta Public Schools	Minor Minor	GPS GEC	4/1/1996 2/16/1995	PCBs PCBs	0.00 0.00	
General Electric Company General Motors Corporation	SIU	FB1	9/13/1991	PCBs	0.00	
General Motors Corporation	SIU	FB1	5/18/1992	PCBs	0.00	
General Motors Corporation	SIU	FB1	1/13/1993	PCBs	0.00	
General Motors Corporation	SIU	FB2	9/13/1991	PCBs	0.00	
General Motors Corporation	SIU	FB2	10/14/199	PCBs	0 00	
General Motors Corporation	SIU	FB2	5/18/1992	PCBs	0.00	
General Motors Corporation	SIU	FB2	1/13/1993	PCBs	0.00	
General Motors Corporation	SIU	FB3	9/13/1991	PCBs	0.00	
General Motors Corporation General Motors Corporation	SIU SIU	FB3 FB3	10/14/199 5/18/1992	PCBs PCBs	0.00 0.00	ĺ
General Motors Corporation	SIU	FB3	1/13/1993	PCBs	0.00	
General Motors Corporation	SIU	FB4	9/13/1991	PCBs	0.90	ua/i
General Motors Corporation	SIU	FB4	10/14/199	PCBs	0.00	- J
General Motors Corporation	SIU	FB4	5/19/1992	PCBs	0.00	
General Motors Corporation	SIU	FB4	1/13/1993	PCBs	0.00	
General Signal Corporation	Minor	GSC	8/30/1993	PCBs	0.00	
Georgia Pacific Corporation Georgia Pacific Corporation	SIU	GEO GEO	12/2/1987 4/25/1988	PCBs PCBs	0.00	
Georgia Pacific Corporation	SIU	GEO		PCBs	0.00	
Georgia Pacific Corporation	SIU	GEO		PCBs	0.00	
Green Bay Packaging	SIU	GBP		PCBs	0.00	
HRP, Incorporated	SIU	LRE	11/19/199	PCBs	0.00	
HRP, Incorporated	SIU	LRE	1/8/1992	PCBs	0.00	
Harrison Packing Company	Minor	HPC		PCBs	0.00	
Harrison Packing Company	Minor	HPC		PCBs	0.00	
Haviland Products Company Hexacomb	Minor Minor	HAV HXH	1/15/1992 3/11/1992	PCBs PCBs	0.00 0.00	
Humphrey Products	SIU	HUM	12/11/1992	PCBs	0.00	
Humphrey Products	SIU	ним	1/15/1992	PCBs	0.00	
Imperial Adhesives	Minor	IMA		PCBs	0.00	
Imperial Oil Company	Minor	IOC		PCBs	0.00	
International Paper, Incorporated	Minor	INP	11/12/199	PCBs	0.00	
International Paper, Incorporated	Minor	INQ		PCBs	0.00	
James River Corporation	SIU	JR1		PCBs	0.00	
James River Corporation	SIU	JR2		PCBs	0.00	
James River Corporation	SIU	JR3		PCBs	0.00	
James River Corporation	SIU SIU	JRC	12/2/1987	PCBs	0.00	
James River Corporation James River Corporation	SIU	JRC JRC	4/25/1988 4/23/1991	PCBs PCBs	0.00 0.00	
James River Corporation	SIU	JRC	11/26/199	PCBs	0.00	
James River Corporation - Parchment	SIU	JRG		PCBs	0.00	
personal distinction					3.55	

no pupara

Monday, June 02, 1997	Α	NSWER				Page	3
Industryname	Category	Indid	Samdte	Hname	Value	Hunit	
James River Epic Plant	SIU	JRP	6/4/1992	PCBs	0.00		
KALSEC, Incorporated	SIU	KSC	11/6/1991	PCBs	0.00		
Kalamazoo County Department of Buildings an	Minor	KL1	6/15/1992	PCBs	0.00		
Kalamazoo County Department of Buildings an	SIU	KL2 KC1	6/15/1992 10/30/199	PCBs PCBs	0.00 0.00		
Kalamazoo Creamery Kalamazoo Creamery	SIU	KC3	10/30/199	PCBs	0.00		
Kalamazoo Metal Finishers	SIU	KMF	2/5/1992	PCBs	0.00		
Kalamazoo Technical Furniture	SIU	KTF	6/15/1992	PCBs	0.00		
Kalamazoo Valley Community College	Minor	KCC		PCBs	0.00		
Laidlaw Waste Systems	Minor	LWS	4/21/1994	PCBs	0.00		
Laidlaw Waste Systems Laidlaw Waste Systems	Minor Minor	LWS LWS	2/7/1995 2/8/1995	PCBs PCBs	0.00 0.00		
Lakeside Refining	Minor	LAK		PCBs	0.00		
Lakeside Refining	Minor	LAK	1/8/1992	PCBs	0.00		,
Leiner Health Products	SIU	WLI	11/13/199	PCBs	0.00		1
Lowder's Automotive	Minor	LOW	7/19/1994	PCBs	0.00		
Lowder's Automotive	Minor	LOW	12/20/199	PCBs	0.00		
Lowder's Automotive MDEQ-Midwest Aluminum	Minor Minor	LOW MID	5/30/1995 8/19/1996	PCBs PCBs	0.00 0.00		
MDEQ-Midwest Aluminum	Minor	MID	8/23/1996	PCBs	0.00		
MDEQ-Midwest Aluminum	Minor	MID	8/28/1996	PCBs	0.00		
MDEQ-Midwest Aluminum	Minor	MID	9/4/1996	PCBs	0.00		
MDEQ-Midwest Aluminum	Minor	MID	9/5/1996	PCBs	0.00		
MDEQ-Midwest Aluminum	Minor	MID		PCBs	0.00		
MDEQ-Midwest Aluminum MDEQ-Midwest Aluminum	Minor Minor	MID MID	9/24/1996 9/30/1996	PCBs PCBs	0.00 0.00		
Mall City Container	SIU	MCC	1/9/1992	PCBs	0.00		1
Meredith Metering Station	Other	MRD	4/23/1991	PCBs	0.00		
Michigan Department of Natural Resources	SIU	PPP	12/5/1991	PCBs	0.00		
Michigan Department of Transportation	Minor	DOT		PCBs	0.00		
Michigan State University	Minor	KBS	4/5/1994	PCBs	0.00		
Michigan State University Millennium Holdings Inc., c/o SCM Chemicals,	Minor SIU	KBS HMH	8/29/1994 4/26/1991	PCBs PCBs	0.00 0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН		PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	siu	НМН	2/5/1992	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН		PCBs	0.00		
	SIU	НМН	4/5/1992	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	5/11/1992	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH		PCBs PCBs	0.00 0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН		PCBs	0.00		40 ander
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН		PCBs	0.00		no paperi
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	11/10/199	PCBs	0.00		, ,
	SIU	НМН	11/18/199	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH	11/25/199 12/1/1992	PCBs PCBs	0.00 0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	12/18/199	PCBs	0.00		
	SIU	НМН		PCBs			12425
Millennium Holdings Inc., c/o SCM Chemicals,	รเบ	НМН	1/4/1993	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	2/2/1993	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	2/8/1993	PCBs	0.00	b	
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH	2/24/1993 6/3/1993	PCBs *	0.18 0.00		1218
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	6/8/1993	PCBs	0.00		0.28
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	6/11/1993	PCBs	0.00	ļ	on lab 5
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	6/25/1993	PCBs	0.00		
	SIU	НМН	6/26/1993	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	6/27/1993	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH HMH	6/30/1993 7/1/1993	PCBs PCBs	0.00 0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	нмн	7/2/1993	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	7/13/1993	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	7/14/1993	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	7/15/1993	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	8/21/1993	PCBs	0.00		
	SIU SIU	HMH HMH		PCBs PCBs	0.00 0.00		
Time Indian Froidings me., 0/0 00 N One modis,		,	3,20,1333	, 553	0.00		

Industryname	Category	Indid	Samdte	Hname	Value	Hunit
	SIU	НМН		PCBs	0.00	
	SIU	HMH		PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH HMH		PCBs PCBs	0.00 0.00	
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH	10/7/1993	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	нмн	10/8/1993	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIŬ	НМН	10/14/199	PCBs	0.00	
	SIU	HMH	10/15/199	PCBs	0.00	i
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	11/5/1993	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	11/11/199	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	HMH	11/12/199	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	11/17/199	PCBs	0.00 0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH	11/19/199 11/20/199	PCBs PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals, Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	11/24/199	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	11/25/199	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	12/1/1993	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	12/2/1993	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	12/3/1993	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	12/4/1993	PCBs	0.00	ļ
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	12/5/1993	PCBs PCBs	0.00 0.00	
Millennium Holdings Inc , c/o SCM Chemicals, Millennium Holdings Inc , c/o SCM Chemicals,	SIU SIU	НМН НМН	12/14/199 3/23/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	3/23/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	3/31/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	4/1/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	HMH	4/2/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	4/7/1994	PCBs	0.00	J
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	4/8/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	4/27/1994	PCBs PCBs	0.00 0.00	
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH	4/28/1994 4/29/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	5/19/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	5/20/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	5/21/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	5/25/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	5/26/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	7/14/1994	PCBs	0.00	į
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	7/15/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals, Millennium Holdings Inc , c/o SCM Chemicals,	SIU SIU	HMH HMH	7/18/1994 7/20/1994	PCBs PCBs	0.00 0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	7/21/1994	PCBs	0.00	
	SIU	нмн	7/26/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	7/27/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	7/29/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	8/2/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH	8/3/1994	PCBs PCBs	0.00 0.00	ł
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	8/4/1994 8/10/1994	PCBs	0.00	ļ
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	8/19/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	8/24/1994	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	9/15/1994	PCBs	0.00	ļ
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	9/16/1994	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	10/2/1994	PCBs	0.00	į
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	10/25/199	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH	10/26/199	PCBs PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals, Millennium Holdings Inc , c/o SCM Chemicals,	SIU	HMH	10/27/199 11/22/199	PCBs PCBs	0.00	İ
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	11/23/199	PCBs	0.00	ua/I
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	11/24/199	PCBs	0.00	٠٠.و٠.
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	11/29/199	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals,	SIU	НМН	3/8/1995	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	4/25/1995	PCBs	0.00	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	5/17/1995	PCBs	0.00	
	SIU	HMH	5/18/1995	PCBs	0.00	
Millennium Holdings Inc , c/o SCM Chemicals, Millennium Holdings Inc , c/o SCM Chemicals,	SIU SIU	HMH HMH	5/31/1995 6/5/1995	PCBs PCBs	0.00 0.00	
while mount i foldings the , c/o sew chemicals,	310	i iivii i	0/3/1993	1-000	0.00	
	<u> </u>	<u> </u>		<u> </u>	<u> </u>	

Milennum Holdings Inc.	Industryname	Category	Indid	Samdte	Hname	Value	Hunit
Milennum Holdings Inc., of SCM Chemicals, Milennum Holdings Inc., of SCM Chemicals, SIU MMH	Millennium Holdings Inc , c/o SCM Chemicals,						
Milennum Holdings Inc., c/o SCM Chemicals, Milennum Holdings Inc., c/o SCM Chemicals, Milennum Holdings Inc., c/o SCM Chemicals, Milennum Holdings Inc., c/o SCM Chemicals, Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 7/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 7/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 7/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 7/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 7/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 7/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 8/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 8/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 10/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 10/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1995 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SCM Chemicals, SIU MIMH 11/13/1996 PCBs 0.000 Milennum Holdings Inc., c/o SC	Millennium Holdings Inc , c/o SCM Chemicals,						1
Milennum Holdings Inc., c/o SCM Chemcals, Milennum Holdings Inc., c/o	Millennium Holdings Inc., c/o SCM Chemicals,						
Millennum Holdings Inc., c/o SCM Chemicals, SIU Hill Hill Hill Hill Hill Hill Hill Hil	Millennium Holdings Inc., c/o SCM Chemicals,						
Mullennum Holdings Inc., c/o SCM Chemicals, Mullennum Holdings I				7/13/1995			
Millennium Holdings Inc. cfo SCM Chemicals, Millennium Holdings Inc. cfo SCM Chemicals, Millennium Holdings Inc. cfo SCM Chemicals, Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 277271995 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 377271995 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 3777995 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 3777995 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 3777995 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 17727199 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 477271996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 477271996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs 0 00 Millennium Holdings Inc. cfo SCM Chemicals, SIU HMH 57771996 PCBs	Millennium Holdings Inc., c/o SCM Chemicals.						
Millennium Holdings Inc.							
Milennum Holdings Inc.	Millennium Holdings Inc., c/o SCM Chemicals,						
Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 4/17/1995 PCBs 0 00 Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 110/5/1995 PCBs 0 00 Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 111/28/1999 PCBs 0 00 Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 13/4/1996 PCBs 0 00 Millennum Holdings Inc. of O SCM Chemicals, Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 13/4/1996 PCBs 0 00 Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 13/4/1996 PCBs 0 00 Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 33/4/1996 PCBs 0 00 Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 33/4/1996 PCBs 0 00 Millennum Holdings Inc. of O SCM Chemicals, SIU HIMH 33/4/1996 PCBs </td <td>Millennium Holdings Inc , c/o SCM Chemicals,</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Millennium Holdings Inc , c/o SCM Chemicals,						
Millennum Holdings Inc., c/o SCM Chemicals, SIU HMH 8/17/1995 PCBs 0.00							
Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 10/5/1995 PCBs	Millennium Holdings Inc., c/o SCIVI Chemicals,						
Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 10/16/1995 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 11/18/1999 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 11/18/1999 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 11/18/1999 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 13/18/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 13/18/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 37/18/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 47/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 47/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 47/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 55/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 55/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 55/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 57/21/1996 PCBs 0.00 Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 77/21/1996 PCBs							
Millennum Holdings Inc. c/o SCM Chemicals, SIU HMH 101/0/199 PCBs	Millennium Holdings Inc., c/o SCM Chemicals,						
Millennum Holdings Inc.	Millennium Holdings Inc., c/o SCM Chemicals,						
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Monday, June 02, 1997	A	NSWER				Page	6
Industryname	Category	Indid	Samdte	Hname	Value _.	Hunit	
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	НМН	4/3/1997	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH	4/8/1997 4/9/1997	PCBs PCBs	0.00 0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	4/14/1997	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals,	SIU	HMH	4/16/1997	PCBs	0.00		
Millennium Holdings Inc., c/o SCM Chemicals, Millennium Holdings Inc., c/o SCM Chemicals,	SIU SIU	HMH HMH	4/24/1997 11/7/1997	PCBs PCBs	0.00 0.00		
Orchard Hill Landfill	Minor	OHL	12/12/199	PCBs	0.00		
Orchard Hill Landfill	Minor	OHL	3/12/1992	PCBs	0.00		
Orchard Hill Landfıll Orchard Hill Landfıll	Minor Minor	OHL	5/13/1992 1/14/1993	PCBs PCBs	0.00 0.11		1242
Orchard Hill Landfill	Minor	OHL	12/7/1994	PCBs.	0.50	ug/l:	1242
Orchard Hill Landfill	Minor	OHL	12/12/199	PCBs		ug/I	1242
Orchard Hill Landfill	Minor Minor	OHL OHL	12/15/199 6/29/1995	PCBs PCBs	0.50	ngu	18:4 C
Orchard Hill Landfill Orchard Hill Landfill	Minor	OHL	7/28/1995	PCBs	0.00		
Orchard Hill Landfill	Minor	OHL	8/3/1995	PCBs	0.00		
Orchard Hill Landfill	Minor	OHL	8/11/1995	PCBs	0.00 0.00		
Orchard Hill Landfill Orchard Hill Landfill	Minor Minor	OHL OHL	8/18/1995 8/25/1995	PCBs PCBs	0.00		
Orchard Hill Landfill	Minor	OHL	9/8/1995	PCBs	0.00		
Orchard Hill Landfill	Minor	OHL	9/18/1995	PCBs	0.00		
Orchard Hill Landfill Orchard Hill Landfill	Minor Minor	OHL OHL	10/26/199 12/7/1995	PCBs PCBs	0.00 0.00		
Orchard Hill Landfill	Minor	OHL	1/2/1996	PCBs	0.00		
Orchard Hill Landfill	Minor	OHL	1/31/1996	PCBs	0.00		
Orchard Hill Landfill	Minor	OHL OHL	2/22/1996 5/28/1996	PCBs PCBs	0.00 0.00		
Orchard Hill Landfill Orchard Hill Landfill	Minor Minor	OHL	10/23/199	PCBs	0.00		
Parchment Metering Station	Other	PAR	4/23/1991	PCBs	0.00		
Parker Abex NWL	SIU	PN1	3/4/1992	PCBs PCBs	0.00 0.00		
Parker Abex NWL Parker Abex NWL	SIU	PN1 PN1	1/6/1993 11/17/199	PCBs	0.00		
Parker Abex NWL	SIU	PN4	3/4/1992	PCBs	0.00		
Parker Abex NWL	SIU	PN4	5/14/1992	PCBs	0.00		
Parker Abex NWL Parker Abex NWL	SIU SIU	PN4 PN4	1/6/1993 11/17/199	PCBs PCBs	0.00 0.00		
Parker Abex NWL	SIU	PNA	11/17/199	PCBs	0.00		
Parker Abex NWL	SIU	PNA	5/16/1994	PCBs	0.00		
Parker Abex NWL Parker Abex NWL	SIU SIU	PNC PNC	2/20/1992 11/17/199	PCBs PCBs	0.00 0.00		
Parker Abex NWL	SIU	PNC	5/16/1994	PCBs	0.00		
Pharmacia & Upjohn - Ag Farms	SIU	UJA	11/5/1991	PCBs	0.00		
Pharmacia & Upjohn - Ag Farms	SIU SIU	UJF UJF	11/5/1991 7/28/1995	PCBs PCBs	0.00 0.00		
Pharmacia & Upjohn - Ag Farms Pharmacia & Upjohn Company - Downtown R	SIU	UJ5	4/28/1994	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	UJC	11/7/1991	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU SIU	UJP	11/7/1991	PCBs PCBs	0.00 0.00		
Pharmacia & Upjohn Company - Downtown R Pharmacia & Upjohn Company - Downtown R	SIU	UJQ	5/5/1993	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	UJR	6/2/1992	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU SIU	UJS	11/7/1991	PCBs PCBs	0.00 0.00		
Pharmacia & Upjohn Company - Downtown R Pharmacia & Upjohn Company - Downtown R	SIU	UJT	11/8/1991	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	UJV	11/7/1991	PCBs	0.21	ug/I	no enaly El
Pharmacia & Upjohn Company - Downtown R	SIU	UJV	2/6/1992	PCBs	0.00		no paperus
Pharmacia & Upjohn Company - Downtown R Pharmacia & Upjohn Company - Downtown R	SIU SIU	∩1∧ ∩1∧	5/1/1992 5/29/1992	PCBs PCBs	0.00 1.00		130
Pharmacia & Opjohn Company - Downtown R	SIU	∥UJV	9/10/1992	PCBs	0.00		1354
Pharmacia & Upjohn Company - Downtown R	SIU	UJV	9/11/1992	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	ΠΊΛ	9/12/1992	PCBs	0.00 0.00		
Pharmacia & Upjohn Company - Downtown R Pharmacia & Upjohn Company - Downtown R	SIU SIU	UJV	11/19/199	PCBs PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	UJV	4/29/1993	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	UJV	5/27/1993	PCBs	2.30	ug/l	1254
Pharmacia & Upjohn Company - Downtown R Pharmacia & Upjohn Company - Downtown R	SIU SIU	NJV NJV	11/30/199 4/26/1994	PCBs PCBs	0.74 0.43	ug/i ug/i	1257
The made a Opjoint Company Cowntown IV	3.3		112011004	003	0.40	-9''	1254
		UTV	7/2/13		0.29	Mg/L	1254

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Monday, June 02, 1997		NOVVER				raye	<u>'</u>
Industryname	Category	Indid	Samdte	Hname	Value	Hunit	
Pharmacia & Upjohn Company - Downtown R	SIU	UJV	10/19/199	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	ΠΊΛ	11/29/199	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	NJV NJV	3/28/1995	PCBs	0.00		l
Pharmacia & Upjohn Company - Downtown R Pharmacia & Upjohn Company - Downtown R	SIU SIU	010	3/29/1995 3/30/1995	PCBs PCBs	0.00 0.00		
Pharmacia & Opjohn Company - Downtown R	SIU	UJV	7/25/1995	PCBs	0.00	1	
Pharmacia & Upjohn Company - Downtown R	SiÚ	ŰĴV	2/27/1996	PCBs	0.00		ĺ
Pharmacia & Upjohn Company - Downtown R	SIU	UJV	8/21/1996	PCBs	0.00		١.
Pharmacia & Upjohn Company - Downtown R	SIU	UJX	11/7/1991	PCBs	1.20	ug/l	*
Pharmacia & Upjohn Company - Downtown R	SIU	ΠΊΧ	2/6/1992	PCBs	0.00		M
Pharmacia & Upjohn Company - Downtown R	SIU	UJX UJX	5/29/1992	PCBs	0.00 0.00		
Pharmacia & Upjohn Company - Downtown R Pharmacia & Upjohn Company - Downtown R	SIU SIU	OJX	4/28/1993 4/30/1993	PCBs PCBs	0.00		l
Pharmacia & Upjohn Company - Downtown R	SIU	UJX	5/27/1993	PCBs	0.70	ug/l	
Pharmacia & Upjohn Company - Downtown R	SIU	UJX	11/30/199	PCBs	0.00		ľ
Pharmacia & Upjohn Company - Downtown R	SIU	UJX	4/26/1994	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	UJX	11/29/199	PCBs	0.00		l
Pharmacia & Upjohn Company - Downtown R	SIU	UJX	3/28/1995	PCBs	0.00		
Pharmacia & Upjohn Company - Downtown R	SIU	UJX	7/25/1995	PCBs PCBs	0.00		ł
Pharmacia & Upjohn Company - Downtown R Pharmacia & Upjohn Company - Downtown R	SIU SIU	NTX NTX	2/2/1996 7/16/1996	PCBs	0.00 0.00		
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	11/5/1991	PCBs	0.00		م. ا
Pharmacia & Upjohn Company - Kilgore Road	SIU	ÚJK	2/6/1992	PCBs	0.00	3.5	1
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	5/15/1992	PCBs	0.00		/he
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	9/1/1992	PCBs	0.00		ĺ
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	9/2/1992	PCBs	0.00 0.00		
Pharmacia & Upjohn Company - Kilgore Road	SIU SIU	UJK	9/3/1992 11/18/199	PCBs PCBs	0.00		İ
Pharmacia & Upjohn Company - Kilgore Road Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	4/28/1993	PCBs	0.00		
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	4/29/1993	PCBs	0.00	1	ĺ
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	5/27/1993	PCBs	0.30	ug/l	ľ
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK .	11/30/199	PCBs	0.00		
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	4/28/1994	PCBs	0.00		
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	7/28/1994	PCBs	0.00 0.00		ĺ
Pharmacia & Upjohn Company - Kilgore Road Pharmacia & Upjohn Company - Kilgore Road	SIU SIU	UJK	7/29/1994 4/4/1995	PCBs PCBs	0.00	1	1
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	5/5/1995	PCBs	0.00		ĺ
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	8/22/1995	PCBs	0.00		ĺ
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	8/23/1995	PCBs	0.00		
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	8/24/1995	PCBs	0.00	İ	l
Pharmacia & Upjohn Company - Kilgore Road	SIU	UJK	2/15/1996	PCBs	0.00]	
Pharmacia & Upjohn Company - Kilgore Road Pharmacia & Upjohn Company - Portage Road	SIU	UJK UJB	7/18/1996	PCBs PCBs	0.00 0.00		
Pharmacia & Opjoin Company - Portage Road Pharmacia & Upjohn Company - Portage Road	SIU	UJB		PCBs	0.00		1
Pharmacia & Upjohn Company - Portage Road	SIU	UJB	4/23/1991	PCBs	0.00		
Pharmacia & Upjohn Company - Portage Road	SIU	UJB		PCBs	0.00		
Portage Creek Metering Station	Other	POR	4/23/1991	PCBs	0.00		1
Portage Creek Metering Station	Other SIU	POR POP	3/29/1995 10/1/1992	PCBs PCBs	0.00 0.00		
Portage Paper Company, Inc Portage Paper Company, Inc	SIU	POP	11/20/199	PCBs	0.00		
Quala Systems, Inc	SIU	NUC		PCBs	0.00		
Quala Systems, Inc	SIU	NUC	2/5/1992	PCBs	0.00		
Rick King / Federated Insurance Company	Minor	RKC	6/9/1995	PCBs	0.00		
Rick King / Federated Insurance Company	Minor	RKC	12/4/1995	PCBs	0.00		ı
Rick King / Federated Insurance Company	Minor	RKC	5/28/1996	PCBs PCBs	0.00 0.00		
Roelof Dairy Schug Farms	SIU Minor	RLF SGP	11/6/1991 11/14/199	PCBs	0.00		
Schupan & Sons, Incorporated	Minor	SSI	11/6/1991	PCBs	0.00		
Schupan & Sons, Incorporated	Minor	SSI	11/12/199	PCBs	0.00		
Shell Oil Company	Minor	SSS	1/23/1992	PCBs	0.00		ĺ
Specialty Adhesives, Incorporated	SIU	SPA	2/1/1996	PCBs	0.00		
Specialty Adhesives, Incorporated	SIU	SPA	4/18/1996	PCBs	0.00		
Star Truck Rental	SIU SIU	STR	1/13/1992	PCBs	0.00		
Strebor Corporation Stryker Medical	SIU	STB STM	11/2/1992 4/15/1994	PCBs PCBs	0.00 0.00		
Sun Company, Incorporated	Minor	SGO	9/11/1991	PCBs	0.00		
Swift-Eckrich, Incorporated	SIU	EKE	11/12/199	PCBs	0.00		
	J		J	<u> </u>			

no paperno

1254

no enalytic

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Industryname	Category	Indid	Samdte	Hname	Value	Hunit
Swift-Eckrich, Incorporated Textile Systems Union Camp Corporation	SIU SIU SIU	EKW TEX UCC	11/26/199 10/18/199	PCBs PCBs PCBs	0.00 0.00 0.00	
Union Camp Corporation Welsh Oil, Incorporated Welsh Oil, Incorporated Welsh Oil, Incorporated		UCC WEL WEL WEL	1/15/1992 3/23/1992	PCBs PCBs PCBs PCBs	0.00 0.00 0.00 0.00	
Welsh Oil, Incorporated Welsh Oil, Incorporated Welsh Oil, Incorporated Welsh Oil, Incorporated	Minor Minor Minor	WEL WEL WEL	12/1/1992 6/1/1993	PCBs PCBs PCBs	0.00 0.00 0.00	
Western Michigan University Western Michigan University Western Michigan University	SIU SIU SIU	WM5 WM5 WM8	12/2/1992 11/13/199	PCBs PCBs PCBs	0.00 0.00 0.00	
Western Michigan University Western Michigan University Western Michigan University Wright Coating Incorporated	SIU SIU SIU SIU	WM8 WM9 WM9 WC2	11/13/199 4/20/1994	PCBs PCBs PCBs PCBs	0.00 0.00 0.00 0.00	

THE CITY OF



DEPARTMENT OF PUBLIC UTILITIES

Water Reclaination 1415 N. Harrison Kalamazoo, Michigan 49007-2565 (616) 385-8157

October 28, 1987

Mr. John B. Webster, Engineer Environmental Affairs The Upjohn Company 7171 Portage Road Kalamazoo, Michigan 49002

Dear John:

Listed below are the results of the PCB analyses conducted on the effluent from the Portage Road facility of The Upjohn Company. All the samples were grab samples collected by City of Kalamazoo Department of Public Utilities employees at the Bishop Road metering station. The analyses were conducted by Brighton Analytical. Incorporated in Highland, Michigan. At least one (1) more grab sample will be collected by the end of 1987 at this same location. These analyses are being conducted in order to comply with Michigan Department of Natural Resources requirements as it relates to the long-term water quality effluent based limitations for PCB's.

			Dates	
Parameter	Units	3/9/87	6/24/87	9/25/87
Aroclor 1221	ug/L	<0.2	<0.08	<0.1
Aroclor 1242	ug/L	<0.02	<0.05	<0.1
Aroclor 1254	ug/L	<0.04	0.05	<0.1
Aroclor 1260	ug/L	<0.03	<0.03	<0.7
Total PCB's	ug/L	<0.3	0.05	<1.0

Please call if you have any questions regarding this information.

Sincerely,

Bruce: E. Merchant.

Industrial Services Supervisor

c R. Amundson,

K. Mottinger

D. Starkey

File

KB20007860





Brighton Analytical Inc.

1576 Alloy Parkway

Phone (313) 887-6364 DATA SUMMARY SHEET

Highland, Michigan 48031

Sample Name/Date

		Upjohn- Bishop	KWRP Final E	Allied f.Paper	Georgia Pacific	James River	Field Blank
Parameter	<u>Units</u>	6/24	6/24	6/24	6/24	6/24	6/24
Aroclor 1221	ug/l	 <0.08	< 0.01	< 0.09	<0.05	<0.06	< 0.01
Aroclor 1242	ug/l	 20.05	<0.01	< 0.05	< 0.03	<0.03	<0.01
Aroclor 1254	ug/l	 0.05	< 0.01	<0.03	0.03	< 0.03	<0.01
Aroclor 1260	ug/l	< 0.03	< 0.01	<0.03	< 0.03	< 0.04	< 0.01
	/-						
Total PCB's	ug/l	 0.05	< 0.04	< 0.20	0.03	< 0.16	< (). 04
	:						
]					 	

PHARMACIA & UPJOHN, INC.

INTERNATIONAL MANUFACTURING-TECHNICAL SUPPORT
7000 PORTAGE ROAD

KALAMAZOO, MI 49001 FACSIMILE #: 616-833-3871

TO:

FACSIMILE #:

377-8699

DATE:

SUBJECT:

EDOM.

PHONE:

TOTAL PAGES IN THIS TRANSMISSION (Includes this sheet): 3

MESSAGE:

Should I we

Confidentiality Note: The documents accompanying this telescopy transmission contains information belonging to Pharmacia & Upjohn. Inc. which is intended only for the use of the addressee. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this telecopied information is strictly prohibited. If you have received this telecopy in error, please immediately notify us by telephone to arrange for the return of the original documents to us.



Fire & Environmental Consulting Laboratories, Inc.

Samples collected by:

Date/time samples submitted:

C. Longrove/D. Hale

04-23-91 10:51 a.m.

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167 FAX (517) 332-6333 Indianapolis (317) 879-0913 FAX (317) 879-0914

May 8, 1991

City of Kalamazoo 1415 N. Harrison Kalamazoo, MI 49007

Attn: Mr. Nasim Ansari

ANALYTICAL LABORATORY REPORT

FECL #: 6705-91-E1-2

Samples analyzed by: P. Goergen

Analyses requested by: N. Ansari

PO#: 53286

Submitting Company: City of Kalamazoo

1415 N. Harrison Kalamazoo, MI 49007

Project description: PCB Special Sampling

Samples collected:

FECL #: 6705-91-E1

Tag: SP3 11291 Kalamazoo Ave. @ Edwards - Sanitary Sewer

Container: Glass Jars Sample Type: Liquid Preservation: None

Sampling date/time: 04-22-91

FECL #: 6705-91-E2

Tag: SP4 11291 Kalamazoo Ave. @ Pitcher - Sanitary Sewer

Container: Glass Amber Sample Type: Liquid Preservation: None

Sampling date/time: 04-22-91



Analytical Laboratory Report

City of Kalamazoo

FECL #: 6705-91-E1-2

May 8, 1991 Page Two

FECL #:

Tag:

6705-91-R1 SP3 11291

Kalamazoo Ave. @ Edwards -Sanitary Sewer **6705-91-E2** SP4 11291

Kalamazoo Ave. @ Pitcher -Sanitary Sewer

Organic

PCB

< 0.0001 mg/l

< 0.0001 mg/l

Violetta F. Murshak Laboratory Manager

VFM/ajc

1415 N	RTMENT OF PUBLIC UTIL Harrison izoo Michigan 49007 i 8157	SAMPLI (Signati	ure)	Ele		PURPOSE	of analysis Special	Sampling	1/10	7
	EM SAMPLE I.D.	SAMPLE NUMBER	NUMBER & SIZE OF CONTAINER	D A T E	T J M E	C G O R M A P B	SAMPLE LOC	CATION, DESCRIPTION REMARKS	DATE/TIME	DATE/TIME
	1 '\$73'	\$P3 11291	Two-1L	4/22/91	10'.30M	1	KALAMAZOO AK @EDWARDS	- SANITARY SEWER	1	
12 2é	2 'sf1'	SP1 91	-TWO-	162/91		H	1	STORM SEAR R	1	} B ⟨
. 3	1 = 0 11	5P4		7-7	10:0RM	H	RALAMAZOO A @ PITCHER-	SANITARY SELLER	필월호	RECEIVED BY (Signature)
134	1'SR2'	92	Two	45201			-	STORM SOWER	L	
									DATE/TIME	DATE/TIME
									ED BY	ED BY
			1						QUISH (ture)	duist
			j.		1			1 0/	E 3 RELINQUIS (Signature)	
	RAL/CONVENTIONAL	RESULT	RACE METALS	RESU	JLT ORG.	ANIC COMP			DATE/TIME 3 RELIN (Signa	
		RESULT		RESU	JLT ORG.			\ \times_{\cdot}		
	pH BOD CBOD	RESULT	CADMIUM TOTAL CHROMIUM HEX CHROME	RESU	JLT ORG			\ \times_{\cdot}	3Y DATE/TIME	3Y DATE/TIME
	pH BOD CBOD COD	RESULT	CADMIUM TOTAL CHROMIUM HEX CHROME COPPER	RESU	JLT ORG.				3Y DATE/TIME	3Y DATE/TIME
	pH BOD CBOD	RESULT	CADMIUM TOTAL CHROMIUM HEX CHROME	RESU	JLT ORG.			\ \times_{\cdot}	3Y DATE/TIME	3Y DATE/TIME
	pH BOD CBOD COD TSS	RESULT	CADMIUM TOTAL CHROMIUM HEX CHROME COPPER LEAD	RESU	JLT ORG.		601		RECEIVED BY DATE/TIME (Signature)	RECEIVED BY DATE/TIME (Signature)
	pH BOD CBOD COD TSS VSS	RESULT	CADMIUM TOTAL CHROMIUM HEX CHROME COPPER LEAD NICKEL	RESU	JLT ORG.	EPA METHOD	601		TIME RECEIVED BY DATE/TIME (Signature)	TIME RECEIVED BY DATE/TIME (Signature)
	pH BOD CBOD COD TSS VSS NH ₃ N TOTAL P ORTHO P	RESULT	CADMIUM TOTAL CHROMIUM HEX CHROME COPPER LEAD NICKEL ZINC SILVER MERCURY	RESU	ULT ORG.	EPA METHOD	601		RECEIVED BY DATE/TIME (Signature)	TIME RECEIVED BY DATE/TIME (Signature) 1 1/2
	pH BOD CBOD COD TSS VSS NH ₃ N TOTAL P ORTHO P GREASE/OIL	RESULT	CADMIUM TOTAL CHROMIUM HEX CHROME COPPER LEAD NICKEL ZINC SILVER MERCURY BERYLLIUM	RESU	JLT ORG.	EPA METHOD	601	No Flow in 33	BY HAZETTIME RECEIVED BY DATE/TIME (Signature)	DATE/TIME RECEIVED BY DATE/TIME (Signature) \ \(\frac{1}{2} \rangle \ \frac{1}{2} \rangle \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}{2} \rangle \frac{1}{2} \rangle \ \frac{1} \rangle \frac{1}{2} \rangle \ \frac{1}{2} \rangle \ \frac{1}
	pH BOD CBOD COD TSS VSS NH ₃ N TOTAL P ORTHO P	RESULT	CADMIUM TOTAL CHROMIUM HEX CHROME COPPER LEAD NICKEL ZINC SILVER MERCURY	RESU	JLT ORG.	EPA METHOD	601	No Flow in 23	TIME RECEIVED BY DATE/TIME (Signature)	TIME RECEIVED (Signature)

PAGE 1

LAB# 9240255 IND. INF. II 33990 /2/5/90 LAB# 9240256 PRI. INF. PI 33990

LAB#	9240255	9240256
Mercury, Total , mg/1	< 0.0005	< 0.0005
PCB'S BY AROCHLOR .	ug/1	ug/1
PCB-1016	< 0.2	< 0.2
PCB-1221	< 0.2	< 0.2
PCB-1232	< 0.2	< 0.2
PCB-1242	< 0.2	< 0.2
PCB-1248	< 0.2	< 0.2
PCB-1254	< 0.2	< 0.2
PCB-1260	< 0.2	< 0.2
PCB-1262	< 0.2	< 0.2
PCB, Total	< 0.2	< 0.2

를 :

C 08.94 I

12:55 No.010 P.C

SAMPLES RECEIVED 12/05/90

LAB# 9240257 DSE CAKE DSEC 33990

LAB# 9240258 BELT PRESS CAKE BPC 33990

LAB# 9240259 INC. ASH IA 33990

1.404

LAB# UNITS	9240257 mg/kg	9240258 mg/kg	9240259 mg/kg
Mercury, Total	0.21	0.19	< 0.01
PCB'S BY AROCHLOR			
PCB-1016	< 0.1	< 1.0	< 0.1
PCB-1221	< 0.1	< 1.0	< 0.1
PCB-1232	< 0.1	< 1.0	< 0.1
PCB-1242	< 0.1	< 1.0	< 0.1
PCB-1248	< 0.1	< 1.0	< 0.1
PCB-1254	< 0.1	< 1.0	< 0.1
PCB-1260	< 0.1	< 1.0	< 0.1
PCB-1262	< 0.1	< 1.0	< 0.1
PCB, Total	< 0.1	< 1.0*	< 0.i

^{*}Higher level of detection due to matrix interference.

PAGE 2

ec 08'94

l2:56 Na.010 P.C

LAB# 9240957 PRIMARY INFLUENT PI 34890 LAB# 9240958 INDUSTRIAL INFLUENT II 34890

LAB# UNITS	9240957 ug/1	ug/l
PCB'S BY AROCHLOR	gan, ping pang dalah dalah gang gang dalah dalah ga	
PCB-1016	< 0.1	< 0.1
PCB-1221	< 0.1	< 0.1
PCB-1232	< 0.1	< 0.1
PCB-1242	< 0.1	< 0.1
PCB-1248	< 0.1	< 0.1
PCB-1254	02012	< 0.1
PCB-1260	< 0.1	< 0.1
PCB-1262	< O.1	< 0.1
PCB, Total	0.11	< 0.1

를 :

Dec 08'94 1

12:56 No.010 P.O

CITY OF KALAMAZOO CAL REPORT# 10972

SAMPLES RECEIVED 12/14/90 PAGE 2

LAB# 9240959 INCINERATOR ASH IA 34790 LAB# 9240960 BELT PRESS CAKE BPC 34790 LAB# 9240961 DSE PRESS CAKE DSEPC 34790

LAB# UNITS	9240959 mg/kg	9240960 mg/kg	9240961 mg/kg
Mercury, Total	< 0.01	0.25	0.50
PCB'S BY AROCHLOR			
PCB-1016	< 0.5	< 0.5	< 0.5
PCB-1221	< 0.5	< 0.5	< 0.5
PCB-1232	< 0.5	< 0.5	< 0.5
PCB-1242	< 0.5	< 0.5	< 0.5
PCB-1248	< 0.5	< 0.5	< 0.5
PCB-1254	< 0.5	< 0.5	< 0.5
PCB-1260	< 0.5	< 0.5	< 0.5
PCB-1262	< 0.5	< 0.5	< 0.5
PCB, Total	< 0.5	< 0.5	< 0.5
Pentachloroph en ol	< 1.0	110	11

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Dec 08'94 12:56

12:56 No.010 P.O

SAMPLES RECEIVED 11/14/90 PAGE 1

LAB# 9230621 PRIMARY INFLUENT PI 31890 1/14 LAB# 9230622 INDUSTRIAL INFLUENT II31890

LAB# UNITS	9230621 ug/1	9230622 ug/l
PCB'S BY AROCHLOR		
PCB-1016	< 1.0	< 1.0
PCB-1221	< 1.0	< 1.0
PCB-1232	< 1.0	< 1.0
PCE-1242		< 1.0
PCB-1248	< 1.0	< 1.0
PCB-1254	₹ 1.0	< 1.0
PCB-1260	< 1.0	< 1.0
PCB-1262	< 1.0	< 1.0
PCB, Total	3.3	< 1.0

SAMPLES RECEIVED 11/14/90 PAGE 2

LAB# 9230623 INCINERATOR ASH IA 31890 LAB# 9230624 BELT PRESS CAKE BPC 31890

LAB# 9230625 DSE FILTER PRESS CAKE DSE FPC 31890

LAB# UNITS	9230623 mg/kg		9230625 mg/kg
Mercury, Total	< 0.01	ö.13	
PCB'S BY AROCHLOR			
PCB-1016	< 0.1	< 0.1	< 0.1
PCB-1221	< 0.1	< 0.1	< 0.1
PCB-1232	< 0.1	< 0.1	< 0.1
PCB-1242	< 0.1	< 0.1	< O.1
PCB-1248	< 0.1	< 0.1	< 0.1
PCB-1254	< 0.1	< 0.1	< 0.1
PCB-1260	· 0.1	€ 0.1	< O.1
PCB-1262	< 0.1	< 0.1	< 0.1
PCB, Total	< 0.1	< 0.1	< 0.1

EL:

Dec 08'94

12:57 No.010 P.0

SAMPLES RECEIVED 11/14/90

LAB# 9230626 INCINERATOR ASH IA 31890B LAB# 9230627 BELT PRESS CAKE BPC 31890B

LAB# 9230628 DSE FILTER PRESS CAKE DSE FPC 31890B

LAB# UNITS	9230626 mg/kg	9230627 mg/kg	9230628 mg/kg
make many trees around your many trees make many trees make their stand total	Spen grade signar sayan anam akada dalah spikar palasir pinga dapa silikgi	\$500- Prill Wills State Street Street 6000, State Street Street 1888	
Mercury, Total	< 0.01	0.34	0.29

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PAGE 3

FACSIMILE COVER SHEET

CAL

Canton Analytical Laboratory, Inc. ENVIRONMENTAL ANALYSIS

Telephone: (313) 459-8484

Fax: (313) 459-8262

DATE:	12-8-94	
TO:	Nasim Ansari	
FAX #:	(616) 337-8699	
FROM:	KURT NICKOL	
	OF PAGES (INCLUDING COVER SHEET):	8

Formal report(s) will follow by mail.

SAMPLES RECEIVED 01/04/91 PAGE 1

LAB# 1010165 PRIMARY INFLUENT PI 00491 LAB# 1010166 INDUSTRIAL INFLUENT II 00491

LAB# UNITS		1010165 ug/l	1010166 ug/l
PCB'S BY AROCHLOR		Participants and and other speed time care store same and has	the same their same than same of the paper same than
PCB-1016		4.7	< 0.1
PCB-1221		< 0.1	< 0.1
PCB-1232		< 0.1	< 0.1
PCB-1242	•	< 0.1	0.93
PCB-1248		< 0.1	< 0.1
PCB-1254		< 0.1	< 0.1
PCB-1260	ſ	< 0.1	< 0.1
PCB-1262		< 0.1	< 0.1
PCB, Total		4.7	0.93

SAMPLES RECEIVED 01/04/91 PAGE 2

LAB# 1010167 INCINERATOR ASH IA 00391 LAB# 1010168 BELT PRESS CAKE BPC 00391 LAB# 1010169 DSE PRESS CAKE DSE PC 00391

LAB# UNITS	1010167 mg/kg		
Mercury, Total	< 0.01	0.37	0.21
PCB'S BY AROCHLOR			
PCB-1016	< 0.2	< 1.0*	< 0.2
PCB-1221	< 0.2	< 1.0*	< 0.2
PCB-1232	< 0.2	< 1.0*	< 0.2
PCB-1242	< 0.2	< 1.0*	< 0.2
PCB-1248	< 0.2	< 1.0*	< 0.2
PCB-1254	< 0.2	< 1.0*	< 0.2
PCB-1260	< 0.2	< 1.0*	< 0.2
PCB-1262	< 0.2	< 1.0*	< 0.2
PCB, Total	< 0.2	< 1.0*	< 0.2

^{*}Elevated level of detection due to matrix interference.

LAB# 1010307 PRIMARY INFLUENT PI 00991 LAB# 1010308 INDUSTRIAL INFLUENT II 00991

LAB# 1010307 1010308 'UNITS ug/l ug/l

UNITS	ug/1	ug/l	
PCB'S BY AROCHLOR			
PCB-1016	< 1.0*	< 1.0*	
PCB-1221	< 1.0*	< 1.0*	
PCB-1232	< 1.0*	< 1.0*	
PCB-1242	< 1.0*	< 1.0*	
PCB-1248	< 1.0*	< 1.0*	
PCB-1254	< 1.0*	< 1.0*	
PCB-1260	< 1.0*	< 1.0*	
PCB-1262	< 1.0*	< 1.0*	
PCB, Total	< 1.0*	< 1.0*	

^{*}Elevated level of detection due to matrix interference.

SAMPLES RECEIVED 01/09/91 PAGE 2

LAB# 1010309 INCINERATOR ASH IA 00991 LAB# 1010310 BELT PRESS CAKE BPC 00991 LAB# 1010311 DSE PRESS CAKE DSEPC 00991

LAB# UNITS	1010309 mg/kg		
Mercury, Total	< 0.01	0.17	0.19
PCB'S BY AROCHLOR			
PCB-1016	< 0.2	< 1.0*	< 0.2
PCB-1221	< 0.2	< 1.0*	< 0.2
PCB-1232	< 0.2	< 1.0*	< 0.2
PCB-1242	< 0.2	< 1.0*	< 0.2
PCB-1248	< 0.2	< 1.0*	< 0.2
PCB-1254	< 0.2	< 1.0*	< 0.2
PCB-1260	< 0.2	< 1.0*	< 0.2
PCB-1262	< 0.2	< 1.0*	< 0.2
PCB, Total	< 0.2	< 1.0*	< 0.2

^{*}Elevated level of detection due to matrix interfernece.



135 West Trail Street Jackson, Michigan 49201

November 1, 1990

MIKE

Recovery Specialists, Inc.

Att: Glenn Lease 201 N Park St

Ypsilanti, MI 48197

PCB ANALYSIS REPORT

File Index: 539053-781-084 Quotation Number LCS-222-90 Letter Number 8134

The following samples have been analyzed for PCB concentration in accordance with ASTM D-4059-82 and SW846, Method 8080, "Organochlorine Pesticides and PCBs", as applicable. The indicated PCB concentration is reported as parts per million by weight as the indicated Aroclor.

Control	Tag	PCB	Arc	clo	r	
Number	Number	ppm	42	54	60	Sample Description
90-2084-1	NA	220		х		Drum #1, Spearflex Corp., Transformer oil, K-762
90-2084-2	NA	<5				Drum #2, Spearflex Corp., Transformer oil, K-763
90-2084-3	NA	30	X	X	X	Drum #3, Spearflex Corp., Transformer oil, K-764
90-2084-4	NA	6	Х	X	X	
						transformer oil, K-766
90-2084-5	NA	3			X	
90-2084-6	NA	<1				#9, K-768, Spearflex Corp., clean-up sweepings
						from East side roof
90-2084-7	NA	5			X	K-765, solid wastes under transformers,
						Spearflex Corp.
90-2084-8	NA	230		X		Duplicate of 90-2084-1
90-2084-9	NA	<5				Duplicate of 90-2084-2
90-2084-10	NA	31	Х	X	X	Duplicate of 90-2084-3

Received Date : Analysis Number:

10/29/90 2268, 2269

Analyst

GLCattell and RBLauer

H W Voigt

Chemistry Department

1190-013-CHEM19NAB

	STATE OF MICHIGAN					
1	DEPARTMENT OF NATURAL RESOURCES					

TRANSMITTAL

10:
Buce Merchant.
Bluce Merchant. Kalamaroo Water Reclamation Plan
1415 N. Darrison
Kalamanoo, MI 49007
FOR ACTION AS INDICATED
SIGNATURE REPLY-MY SIGNATURE NOTE AND FORWARD APPROVAL REPLY-COPY TO ME NOTE AND FILE ACTION PLEASE SUMMARIZE NOTE AND RETURN COMMENTS PLEASE INVESTIGATE PLEASE PHONE ME INFORMATION FORWARDED PER REQUEST PLEASE SEE ME RETURN WYOUR RECOMMENDATIONS
REMARKS:
FROM
Chres 12-6-90
R 1147 Rev 2/79



. Fire & Environmental Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167 FAX (517) 332-6333 Indianapolis (317) 879-0913

October 26, 1990

City of Kalamazoo 1415 N. Harrison Kalamazoo, MI 49007

Attn: Mr. Ken Mottinger

ANALYTICAL LABORATORY REPORT

FROL #: 5673-80-R1-2

Samples analyzed by: J. Phifer Analyses requested by: K. Mottinger

PO#: 49D69

Thifer K. Mottinger, B. Merchant

Mottinger Date/time samples submitted:

10-24-90 11:30 a.m.

Samples collected by:

Submitting Company: City of Kalamazoo

1415 N. Harrison Kalamazoo, MI 49007

Project description: Unknown

Samples collected:

FECL #: 5673-90-K1

Tag: Spearflex Drain SSA 29590

Container: Glass Jar Sample Type: Liquid Preservation: None

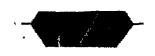
Sampling date/time: 10-22-90

FECL #: 5673-90-KZ

Tag: Spearflex Transformer SB2 29590

Container: Glass Jar Sample Type: Liquid Preservation: None

Sempling date/time: 10-22-90



Analytical Laboratory Report

City of Kalamazoo

FRCL #: 5673-90-E1-2

October 26, 1990

Page Two

FRCL #:

5673-90-K1

5673-90-E2

Tag:

Spearflex Drain

Spearflex Transformer

SSA 29590

SB2 29580

Organic

PCB

21.5 mg/kg*

<1 mg/kg

* Calculation based on a 1254 Standard. However this sample is mixed PCB.

1242 Most likely also pulsest

1254

V.F. Mushak/RA

Violetta F. Murahak Laboratory Manager

VFM/bph



Fire & Environmental Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167 FAX (517) 332-6333 Indianapolis (317) 879-0913

FECL FAX Transmission Report

	Time 2/20	Date 10-26-90	
TO: Ken N	104 inger	FAX NUMBER:	
COMPANY:	Kalannzon		
		MESSAGE	
PCB R	wek		
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
FROM:	une Steen		

FECL FAX NUMBER (517) 332-6333



Fire & Environmental Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167 FAX (517) 332-6333 Indianapolis (317) 879-0913

November 30, 1990

(Revised Report replaces report dated November 30, 1990)

City of Kalamazoo 1415 N. Harrison Kalamazoo, MI 49007

Attn: Mr. Nasim Ansari

ANALYTICAL LABORATORY REPORT

FECL #: 5762-90-E1-6

Samples analyzed by: J. Phifer

Analyses requested by: Nasim Ansari

PO#: 49069

Submitting Company: City of Kalamazoo

1415 N. Harrison Kalamazoo, MI 49007

Project description: Unknown

Samples collected:

FECL #: 5762-90-E1

Tag: Tert Eff TE30590 Container: Glass Jar Sample Type: Liquid Preservation: None

Sampling date/time: 11-01-90

FECL #: 5762-90-E2

Tag: Ind Inf II30590 Container: Glass Jar Sample Type: Liquid Preservation: None

Sampling date/time: 11-01-90

FECL #: 5762-90-E3

Tag: Pri Inf PI30590 Container: Glass Jar Sample Type: Liquid Preservation: None

Sampling date/time: 11-01-90

FECL #: 5762-90-E4

Tag: DSE Cake DSEC30590 Container: Glass Jar Sample Type: Soil Preservation: None

Sampling date/time: 11-01-90

Samples collected by:

Date/time samples submitted:

2:00 p.m.

Joyce A. Paines

11-02-90

FECL #: 5762-90-E5

Tag: Belt Press Cake BPC30590

Container: Glass Jar Sample Type: Soil Preservation: None

Sampling date/time: 11-01-90

FECL #: 5762-90-E6

Tag: Inc Ash IA30590 Container: Glass Jar Sample Type: Soil Preservation: None

Sampling date/time: 11-01-90



Analytical Laboratory Report

City of Kalamazoo FECL #: 5762-90-E1-6

November 30, 1990 (Revised Report)

Page Two

FECL #: Tag:	5762-90-E1 Tert Eff TE30590	5762-90-E2 Ind Inf II30590	5762-90-E3 Pri Inf PI30590
Organic			
PCB	<0.0001 mg/l	<0.0001 mg/l	<0.0001 mg/l
FECL #: Tag:	5762-90-E4 DSE Cake DSEC30590	5762-90-R5 Belt Press Cake BPC30590	5762-90-E6 Inc Ash IA30590
Organic			
PCB	11.7 mg/kg*+	0.085 mg/kg*+	2.4 mg/kg*+
Metal			
Mercury	2.32 mg/kg+	3.22 mg/kg+	3.19 mg/kg+

^{*} Mixed PCB's

Violetta F. Murshak Laboratory Manager

V. F. Murshad

VFM/bph

⁺ Analyzed on a dry weight basis.



Fire & Environmental Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167 FAX (517) 332-6333 Indianapolis (317) 879-0913

December 5, 1990

City of Kalamazoo 1415 N. Harrison Kalamazoo, MI 49007

Attn: Mr. Donald S. Hale

ANALYTICAL LABORATORY REPORT

FECL #: 5919-90-E1-4

Samples analyzed by: J. Phifer

Analyses requested by: Donald S. Hale

PO#: 49069

Ger Donald S. Hale
d S. Hale Date/time samples submitted:

11-16-90 2:10 p.m.

Samples collected by:

Submitting Company: City of Kalamazoo

1415 N. Harrison Kalamazoo, MI 49007

Project description: Unknown

Samples collected:

FRCL #: 5919-90-K1
Tag: Inmont, INM31990
Container: Glass Jar
Sample Type: Liquid
Preservation: None

Sampling date/time: 11-15-90

FECL #: 5919-90-E2

Tag: James River, JRC31990

Container: Glass Jar Sample Type: Liquid Preservation: None

Sampling date/time: 11-15-90

FECL #: 5919-90-E3

Tag: Georgia Pacific, GEO31990

Container: Glass Jar Sample Type: Liquid Preservation: None

Sampling date/time: 11-15-90

FECL #: 5919-90-E4

Tag: Upjohn, UJB31990 Container: Glass Jar Sample Type: Liquid Preservation: None

Sampling date/time: 11-15-90



Analytical Laboratory Report

City of Kalamazoo FECL #: 5919-90-E1-4 December 5, 1990

Page Two

FECL #: Tag:

5919-90-E1 Inmont INM31990

5919-90-E2 James River JRC31990

5919-90-K3 Georgia Pacific

GE031990

Organic

PCB

< 0.001 mg/l

< 0.001 mg/l

< 0.001 mg/l

FECL #: Tag:

5919-90-E4 Upjohn

UJB31990

Organic

PCB

< 0.001 mg/l

V. F Murshok/RA

Violetta F. Murshak Laboratory Manager

VFM/mbb



Fire & Environmental Consulting Laboratories, Inc.

Samples collected by:

10-26-90 12:55 p.m.

Eric Cushmaw, Nasim Ansari

Date/time samples submitted:

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167 FAX (517) 332-6333 Indianapolis (317) 879-0913

November 15, 1990

City of Kalamazoo 1415 N. Harrison Kalamazoo, MI 49007

Attn: Mr. Nasim Ansari

ANALYTICAL LABORATORY REPORT

FECL #: 5704-90-E1

Samples analyzed by: J. Phifer Analyses requested by: Nasim Ansari

PO#: 49069

Submitting Company: City of Kalamazoo

1415 N. Harrison Kalamazoo, MI 49007

Project description: IPP Monitoring

Samples collected:

FECL #: 5704-90-E1

Tag: IAS #1

Container: Glass Jar

Sample Type: Industrial Waste

Preservation: None

Sampling date/time: 10-26-90

90 MV 20 MM:15



Analytical Laboratory Report

City of Kalamazoo FECL #: 5704-90-E1 November 15, 1990

Page Two

FECL #:

5704-90-E1*

Tag:

IAS #1

Organic

PCB

<2 mg/kg

* Higher detection limit due to interference.

Violetta F. Murshak
Laboratory Manager

// F. Clerishur / L.M.

VFM/bph

CHAIN OF CUSTODY RECORD AND LAB ANALYSIS REPORT FORM CITY OF KALAMAZOO DEPARTMENT OF PUBLIC LITHLITIES 6854 PURPOSE OF ANALYSIS: No SAMPLERS: Eric Cushman / Mascalusas 1415 N. Harrison (Signature) IPP monitoring Kalamazoo, Michigan 49007 616-385-8157 G ITEM SAMPLE NUMBER & SIZE SAMPLE LOCATION, DESCRIPTION R 0 Α SAMPLE I.D. NUMBER NUMBER OF CONTAINER M A & REMARKS т м Ė B 3 luc. ASW Inceverator Blog [A5# 1x 5009 4:50P IAS#1 ₩. .. ₽. 4 RELINQUISHE (Signature) RELINQUISHE (Signature) # GENERAL/CONVENTIONAL RESULT TRACE METALS RESULT ORGANIC COMPOUNDS RESULT CADMIUM EPA METHOD 601 pН BOD TOTAL CHROMIUM CBOD HEX. CHROME COPPER COD TSS LEAD VSS **NICKEL** 37.01 NH₂N ZINC **EPA METHOD 602** SILVER TOTAL P ORTHO P MERCURY GREASE/OIL **BERYLLIUM** 8₹: ΒΥ: CHLORIDE BARIUM Signature) RELINQUISHED E Signature) REMARKS CN - TOTAL CN - AMENABLE OTHER

Form 1015